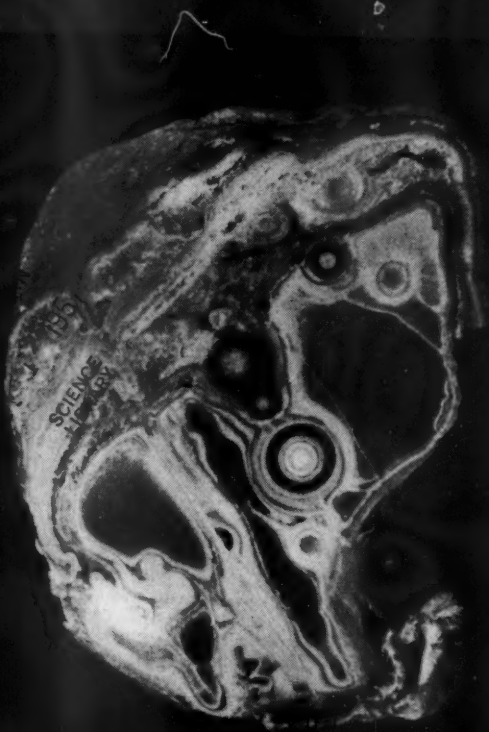
ROCKS and MINERALS



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ROCKS & MINERALS

PETER ZODAC, Editor and Publisher
America's Oldest and Most Versatile Magazine for the Mineralogist, Geologist, Lapidary.

Published Bi-Monthly

OFFICIAL JOURNAL

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WHOLE NO. 258 VOL. 32, Nos. 5-6 MAY-JUNE, 1957

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Chips From the Quarry

A Souvenir from Korea!

Editor R&M:

Under separate cover I am sending the little symbol for "the club here in Korea." There were about 15 of the boys that have been in constant attendance (since last January) on our field trips. Although the club as such did not materialize the spirit was there and we have grown very fond of our friendships. These boys are part of the group that has been seriously studying Geology thru 8th Army Education.

I wanted to give the boys a "going back home present" and so designed the little tie chain. They can wear the chain anytime by putting the tie over the clip. Then when we have our "annual banquet" they can wear it over the tie. (When you get the little chain you will understand what I mean). I thought this was a very practical arrangement for a club symbol. Just thought you might like to include this in any write up.

Mrs. Sylvia Czayo,
U.S. Embassy,
APO 301 c/o P.M.
San Francisco, Calif.

Feb. 12, 1957.

The tie chain has been received and it is not only a most attractive piece of jewelry but very appropriate one as well. From the 2½" long gold tie clip, a slender 4 inch gold chain is suspended and to this chain is attached a tiny brownish dog, carved out of wood. The tie clip has these words engraved.

KOREAN AMERICAN ROCKHOUND CLUB
1956

The Editor of R&M is delighted to be the recipient of this very attractive tie pin and chain and his grateful thanks are extended to Mrs. Czayo.

R & M Prize Winner!

Editor of R & M:

Please enter 1 year subscription in name of Ross M. Horowitz, 136 Villa Road, Pearl River, N. Y., and charge to account of Henry B. Graves Co.

This Junior member of Rockland County Mineral & Gem Society chose subscription to R & M as his prize for winning March cover contest for "Current Events" of Eastern Federation.

Henry B. Graves, Pres.
Eastern Federation of Mineralogical & Lapidary Societies
3153 NW. 27th St.
Miami 42, Fla.

April 18, 1957

Likes 2 Features of R&M!

Editor R&M:

This is my second year of subscription to your magazine and I must say I sincerely appreciate it more every year. I particularly enjoy "Collectors' Corner" and "Visiting Rockhounds Welcome". The first because I often find myself endulged in writing letters for swaps and conversation to each person on the list! The second feature because through this I have met several lasting Rockhound friends. I would like to express my deep thanks for these two features in particular.

Robert B. Ransom
906 Woodland Ave.
Schenectady, New York

March 16, 1957

Skidmore has article in Boys' Life!

Editor R&M:

Possibly it has already been brought to your attention but I will too nonetheless.

Pages 40 and 41 in the September, 1956 issue of "Boys Life" has a very interesting and commendable article entitled "Exploring the World of Fluorescence" by Edwin Skidmore. I believe Mr. Skidmore should be commended for this very fine article of this phase of mineral collecting.

The article also cities "Rocks and Minerals" magazine, Peekskill, New York as a typical publication catering to the rockhound trade.

I think Mr. Skidmore should be cited for his efforts to encourage youngsters in cultivating an interest in mineral collecting. Possibly your subscribers might be interested in the article. "Boys Life" is published monthly by the Boy Scouts of America, New Brunswick, New Jersey. Subscription rate is $3.00 per year or 25 cents a copy in the United States. It is published once a month.

Gerald J. Navratil
243 Farragut Parkway
Hastings on Hudson, N. Y.

March 1, 1957

Bailey moves to Florida!

Editor R&M:

I am moving to Florida, so please take my name off your mailing list. When I get a permanent address in Florida I will write you and renew my subscription. Please mention my moving in R&M because I still have many answers to past ads that I have had in your magazine.

Harvey Bailey,
West Hartland, Conn.

March 26, 1957

Garnet Locality of Minot, Maine

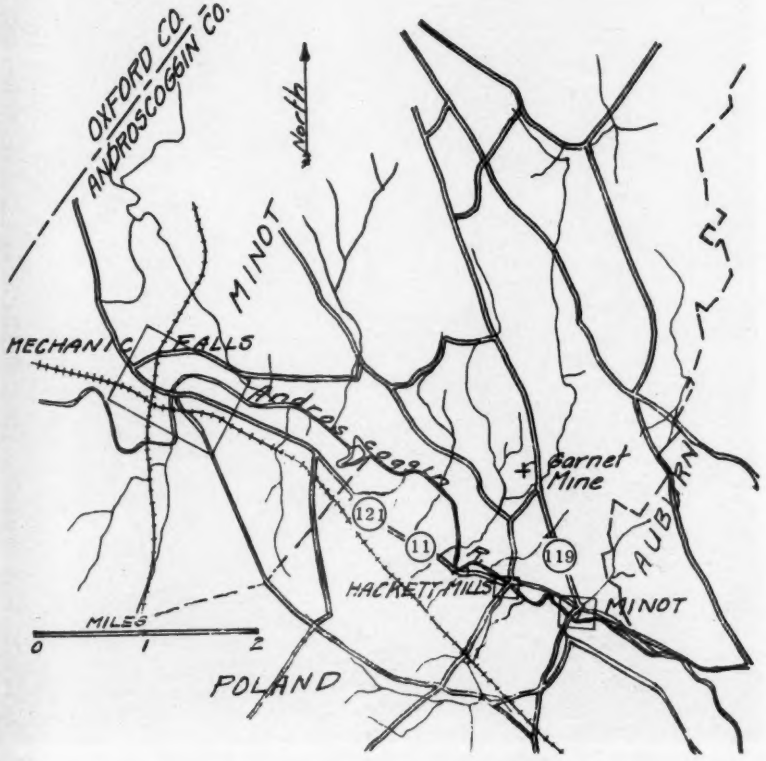
By B. M. SHAUB

159 Elm Street, Northampton, Massachusetts .

The splendid rhombic dodecahedral garnets from the well-known locality of Minot, Maine are to be found in many museums and private collections. The quarry which produces these excellent crystals is located, Fig. 1, in the town of Minot, Maine which is within the belt, along the western boundary of Maine, that is famous for many unusual mineral deposits and fine mineral specimens.

Good mineral specimens from most of the world's mineral localities are usually obtained in connection with mining and quarrying operations for metals and other mineral raw materials. On the other hand a few mineral deposits are occasionally worked solely for the production of cabinet specimens. Such has been the case of the Minot garnet deposit.

The present owner of the property is Mr. Frank A. Pitts, Fig. 2. Mr. Pitts informed the writer that he bought the farm, on which the garnet deposit is located, from Edward Hackett in 1930

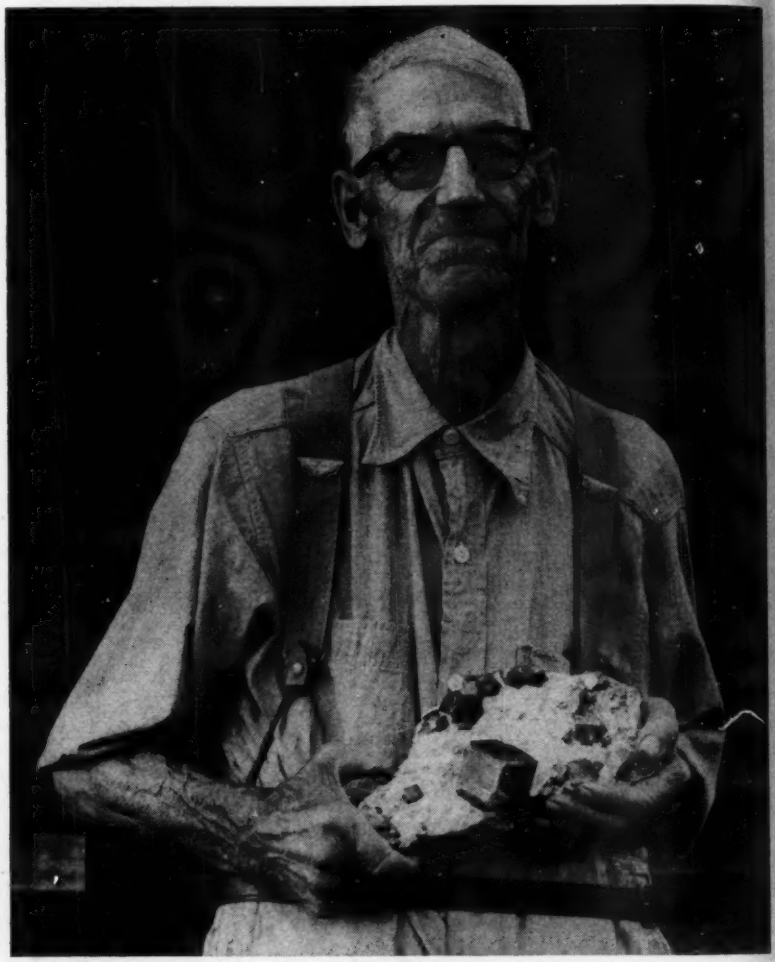


1. **Section from the Poland, Maine quadrangle showing the location of the Minot garnet quarry.**

and later sold most of the land but reserved the timber lot on which the garnet ledge is located.

Many years prior to Mr. Pitt's ownership, the garnet outcropping was known, and work on it had been done intermittantly by Pitt Pulsifer, William Damon and Martin Keith. One or more of these men, during the early operations, had sold specimens to the State Museum at Augusta as well as to some colleges. The deposit was probably worked as early as 1885 or 1890.

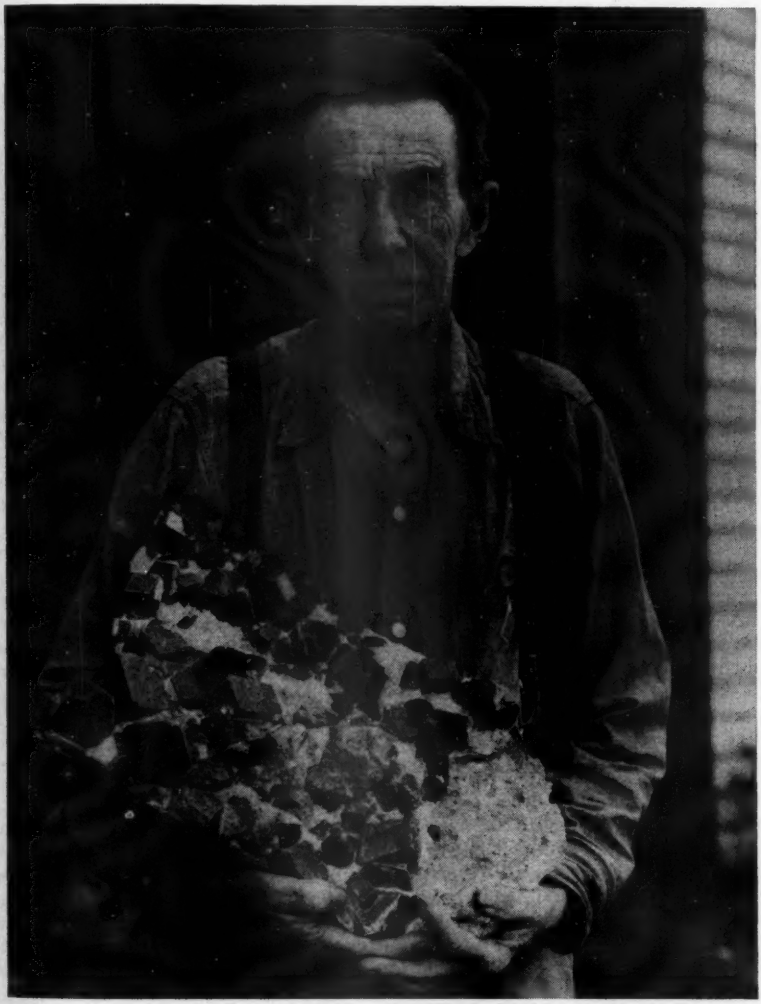
Around 1935 Mr. Pitts and Harold C. Tenney, Fig. 3, of North Livermore, Maine started to operate the quarry as partners. Mr. Tenney assumed the responsibility of selling the garnet specimens that were obtained. In these early undertakings the drilling was done by



2. Portrait of Mr. Frank A. Pitts of Minot, Maine. Mr. Pitts is holding one of the garnet specimens which shows an excellent garnet crystal.

hand and the specimens obtained were marketed by selling them to Ward's and other mineral dealers of the time as well as making many direct salen to mineral collectors. Among other purchasers were the many tourists who visited western Maine during the summers.

By the early 1940's the garnet horizon had reached a depth so as to make hand drilling too laborious, hence the partners, Pitts and Tenney, began hiring contractors who drilled the holes, for the explosive charges, with compressed air drills as each succeeding face required deeper



3. Portrait of Mr. Harold C. Tenney of North Livermore, Maine. He is exhibiting a large slab containing many well-developed garnet crystals. The masses of quartz between the crystals were removed at a later date with a small chisel and a light-weight hammer without further injuring the crystals.

and deeper drilling. They worked the ledge several times during the period of 1940 to 1950. The most recent work was done in 1954 when some very fine specimens were obtained. (Note the specimens being held by Mr. Pitts, Fig. 2, and Mr. Tenney, Fig. 3). The last specimens were distributed to the ultimate purchasers through the various mineral dealers as well as directly to collectors who called on Mr. Tenney at North Livermore, Maine.

Each summer many mineral collectors visit the famous localitites in the area along the western boundary of Maine with the hope of finding a few high quality specimens that will match some of those frequently described in the literature or seen on display in the museums or in private collections. Although his ambitions are seldom realized, the ardent mineral collector is always stimulated by visits to these old localities and as he sits on the edge of the old quarry pits he may try to visualize the activities and excitement when the fine crystallized specimens were recovered, and although he is many years too late he must experience the thrill of being on a spot so hallowed to the mineralogist. While most of the famous localities of western Maine were very sporadic in the production of fine specimens, the occurrence of garnets at the Minot garnet quarry is entirely different for the garnets are somewhat irregularly located along a definite horizon, and new supplies can always be obtained as the demand arises; nevertheless, the cost of working deeper and deeper is an important factor in the first cost of the garnets.

During the summer months the mineral collectors who visit western Maine find their way to the garnet mine as one of the many localities on their itinerary. Subsequent to each period when the quarry is worked, the first roving collectors find a wealth of material considered unsaleable by the operators. Such scraps are soon gathered up and each succeeding collector can only stare at the horizon where the garnets are located for even though he works with great energy he is not likely to obtain more than a few chips from the garnet-bearing strata which is covered with about 6 to 8 feet of the overlying metamorphic rock. Except for brief periods after the quarry has been worked, it soon becomes "barren" again and the many collectors leave the pile of freshly worked metamorphic rock almost as frustrated as they are after a visit to the historic and world famous Mt. Mica locality.

The nature and occurrence of the Minot garnets is especially interesting to the real student of mineral genesis. A study of the mineral species and an examination of the diagram, Fig. 4, will show at once that the garnets and other minerals present are quite certain to be the result of contact metamorphic action due to the presence of large masses of pegmatite magmas and the high degree of metamorphism in the area. The material in the metamorphosed sediments consists principally of silicates and carbonates of calcium and magnesium. The rocks are dipping toward the pegmatite as well as lying probably only a short distance above the igneous material. The entire mass of sediments may represent a roof pendant that was partly engulfed within a large mass of the magma. The suite of minerals found here indicates that the initial chemical composition of the sediments was probably close to the present composition of the metamorphic rock. The sediments were completely recrystallized from the impure calcium and magnesium carbonates and silicates which produced a suite of common metamorphic minerals of which garnet is the most outstanding and spectacular.

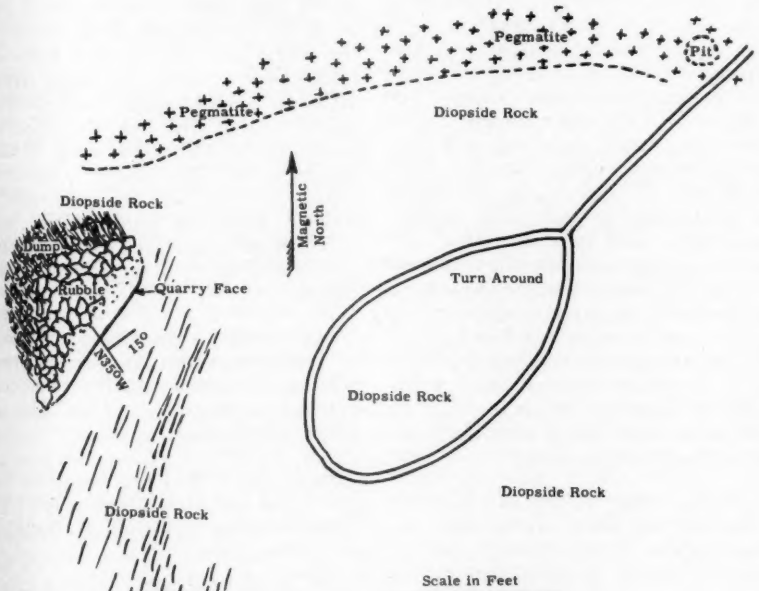
Here and there in the metamorphosed rocks a few small sill-like masses of fine-grained pegmatite were injected into the diopside-bearing rocks, however there was probably little if any pegmatitic material added to the composition of the original sediments as the mineral suite present contains no minerals that could not as logically have been present as primary constituents of the sediments. Feldspars appear to be absent except in the pegmatitic phases.

Mr. Pitts kindly placed many of his very interesting specimens at the author's disposal as well as giving him a general description of the quarry operations during the past. He also kindly guided a group of mineralogists to the quarry to see and study the garnet and associated rocks. At the start of the mining operations, the garnet-bearing layer was at the surface but pitched to the northeast into the pegmatite. The Minot garnet quarry is one of relatively few mineral deposits in the eastern part of the United States that has been worked intermittantly for nearly three quarters of a century for specimen material only and then for a single mineral species.

The Pitts-Tenney team is to be congratulated for carrying on periodically mining operations to recover the crystals and to make these fine garnets available to so many institutions and collectors.

Geology of the Minot Garnet Deposit

The quarry rock consists chiefly of metamorphosed impure calcareous sediments which strike N 35°W and dip 15°NE. The principal minerals are diopside, quartz, scapolite (mizzonite) and garnet. These minerals occur in varying proportions, however, of these diopside is the most common. The face of the open pit is about 35 feet long and up to about 10 feet high. The upper 3 feet consist chiefly of diopside and quartz. This is followed by two feet in which garnet becomes noticeable. The next 14 inches become more coarsely granular and consist of garnet, diopside, grains and patches of scapolite and stringers of light smoky quartz. The next three feet contain the garnet horizon which is more or less irregular and patchy consisting of streaks of quartz, calcite masses and scapolite as well as the groups of garnet crystals



4. Plan of the open pit and geology of the garnet occurrence on Frank A. Pitts property, Minot, Maine.

all of which are irregularly distributed although conforming to the bedding. The exposed section in the pit does not show the garnets prominently for they are seldom euhedral but consist of a half crystal attached to the diopside-garnet rock and covered with quartz or calcite. To obtain the garnets the blocks, loosened by blasting, must usually be split parallel to the bedding. The crystals appear to have developed along the bed that was more fluid or plastic during the stages of metamorphism.

Description of the Minerals

Actinolite.—A few specimens contained small amounts of this mineral. The porous nature of the specimens containing the actinolite may indicate the possible presence of some early calcite which has since been removed.

Calcite.—It is indeed quite probable that calcite, in some quantity, was one of the original materials in the sediments and was later recrystallized forming grains up to 1/2" to 1" across as well as providing calcium for the diopside and other minerals present. It is associated chiefly with garnet, diopside and scapolite also with some of the other minerals which developed crystals, as sphene and clinozoisite although in lesser amounts. Small masses also occur along the fractures in the garnet-diopside rock. The diopside-quartz-garnet rock near the garnet crystals is sometimes quite porous which may indicate that calcite was present but has been removed by meteoric waters or late hydrothermal solutions which did not affect the other minerals present. When calcite is present around small garnet crystals or scapolite there are usually many light green crystals or grains of diopside enclosed within the calcite.

Chlorite.—Only a very small amount of chlorite was noted in the wall rock. There appears to have been a lack of sufficient iron to produce more than a very few ferro-magnesian or other iron-bearing minerals.

Clinozoisite.—Clinozoisite occurs in somewhat bladed masses associated and intergrown with the calcite and scapolite. The color is light to medium gray, sometimes irregular pieces may contain a few striated crystal faces. The larger pieces tend to be of a darker gray color. The mineral was identified by x-ray powder photographs.

Diopside.—Diopside is abundantly distributed throughout the metamorphosed sediments as rounded and irregular grains often forming the greater part of the rock. In these rocks it forms a granular mixture with garnet, scapolite and quartz. The interior of some garnet crystals consists largely of a granular aggregate of garnet and diopside which is covered by a dodecahedral shell of garnet that forms the splendid exteriors of some crystals. In such instances the diopside is probably present in the garnet crystals as inclusions about which the garnet grew during the end of the recrystallization processes. The diopside continued to develop after some of the garnets had completed their growth for many small diopside crystals and/or grains are attached to the surface of the garnet and are included within the calcite when it covers the garnet crystals. At times diopside yields small green euhedral crystals although the edges are always rounded especially when included in the calcite. The diopside grains are mostly anhedral and are frequently associated with the scapolite and occur as inclusions within this mineral. Diopside is also attached to the surface of scapolite crystals.

Many small cavities were heavily coated with diopside crystals, most of which were very poorly developed. The clinozoisite examined appears to be free from association with diopside.

Feldspar.—Very little if any feldspar was noted although the pegmatite was injected in thin layers in the vicinity of the garnet horizon.

Grossularite (Garnet) —The crystals of this mineral are by far the most spectacular of all those found in the quarry. Crystals up to 5 inches across have been obtained during some of the mining

operations. Specimens 1" to 1 1/2" are quite common. The mineral occurs in strikingly perfect rhombic dodecahedral crystals implanted onto a diopside-garnet rock. A few of the smaller crystals are modified by the tetragonal trisoctahedron and these in turn are occasionally modified by narrow line-like faces of the hexoctahedron. The color varies from a light yellowish brown to a dark brown and brownish amber. The crystals are usually opaque although small ones are nearly transparent. The garnet crystals formed chiefly in and along an horizon nearly three feet thick consisting chiefly of coarse-grained diopside, scapolite and gray to smoky quartz. In the garnet layer the garnets developed in groups along the stratum and are firmly attached to the diopside-garnet rock. The garnet crystals are sometimes covered by a layer of quartz which is badly shattered and traversed with many minute cracks. In this condition the quartz often falls away from the smooth garnet crystals due to the shock of blasting or in sledging the blocks apart. The quartz remaining around the crystals can be chipped away with small chisels. In some instances it was noted that the garnet crystals were covered with calcite instead of quartz. The garnet crystals that were covered with quartz did not have the associated diopside grains and/or crystals attached to them or inclosed within the quartz as is the case when the covering mineral is calcite. The garnet crystals covered with calcite are always rough due to the attached diopside. The garnet associated with diopside and calcite sometimes contains a very high percent of diopside inclusions which occasionally appear to dominate the composition of the crystals. Toward the end of crystallization the garnet sometimes produced a thin dodecahedral shell of clear garnet around the granular interior of garnet with diopside grains. Skeleton shells of garnet also occur as a contemporaneous growth with the calcite. At times the calcite was removed later by solution from around the garnet leaving skeleton garnet structures. The garnet shells are sometimes intricately cracked and resemble the crazing in some old porcelain glazes. Whenever conditions permitted, the garnet developed some sort of crystal form ranging from thin plates with crystal faces to complete single crystals which, however, are uncommon as the garnets are usually only partly formed.

Quartz.—This mineral is most abundant in the horizon containing the large garnets which are usually covered with quartz. This mineral is intricately shattered to the extent that it is rather easily removed from around the garnet crystals without serious damage to them. Occasionally grains of quartz occur along with grains of diopside and scapolite in the massive rock. Now and then a cavity may contain some quartz associated with small garnet crystals and scapolite.

Mizzonite (Scapolite).—The mineral mizzonite is present as an important granular constituent in the diopside-garnet rock and in the cavities with garnet and diopside. At times it is in poorly developed crystals which are rather rough prismatic forms occurring along with some of the smaller garnet crystals. The scapolite crystals have included some diopside during their crystallization and one also finds diopside crystals sprinkled over the surface of the scapolite. Rough crystals of scapolite several inches long are to be found in a light gray quartz.

Sphene.—Sphene is present only in very minor amounts, however, the round and wedge-shaped crystals are frequently perched on the diopside and scapolite crystals. The color of the sphene varies from medium brown to a light pinkish brown which very closely resembles the color of much of the garnet, hence there may be somewhat more sphene present than one may at first estimate. When it is present as inclusions in the calcite, the sphene crystals are somewhat rounded on the edges and are of a light gray and amber color.

The writer wishes to express his thanks and appreciation to Mr. Frank A. Pitts for reviewing the history of the Minot garnet quarry and for supplying many

interesting specimens for study. He is also indebted to Mr. Harold C. Tenney for the privilege of examining many specimens of the garnet in his possession.

Most mineral collectors regret the passing of the productive periods of the famous old mineral localities. Some of the old ones of New England have probably yielded the last of their stores of fine mineral and crystal specimens and offer nothing for the future efforts of anyone who is willing to risk some capital in additional work. This is probably not the case with the Minot garnet mine for there is still ample evidence that many slices may still be removed from the working face and when the garnet horizon is reached more crystals will be brought to light. Therefore, the mineral collectors can look forward to a supply of Minot garnets for many years in the future .

Nothing New to the Editor!

Editor R&M:

I am sending you a piece of wood that I found in some hard coal that was delivered to my home. This is one-half of the piece I found and I am wondering if this is some kind of vegetation that went into the making of coal or is it something of more recent date that got into it accidentally? The texture and grain are rather odd to me. This is probably nothing new to you but I would like to know what it is and whether I should save the half I have.

Roy M. Fitts
39 E. Elm St.
Yarmouth, Me.

March 21, 1957

Editor's Note: The specimen received is a dark brown piece of real wood. It comes from a post or prop used in a coal mine. (The hard coal mines use thousands of posts in a mine). The post from which your wood came may have been used in a working place where the coal is actually mined—after a post is in a mine for a few years it may dry out a lot and become shredded, due to the pressure on it by the mine roof. Sometimes the pressure of the roof is so strong as to splinter a post and when this happens the post has to be replaced by a new one. Your wood specimen comes from such a post, the chip may have been knocked off by flying coal or broken off during the process of removing the splintered post, or in some other way. At any rate, due to its shredded condition ,your wood specimen shows that it has been under tremendous pressure—lengthwise. (The Editor of R&M is an ex-mining engineer with 3 years' experience in the hard coal mines of Pennsylvania).

Wants Novice Column Discontinued!

Editor R&M:

Why don't we discontinue the Novice column? The more I hear about it, the worse it gets. A good woman friend of mine has sent total of five boxes to five different novices. She lives in Yonkers, N.Y. One novice returned the postage. Two of the other novices sent letters or notes of thanks but no postage returned. The remaining two novices did not even acknowledge! That good natured guy in Arizona I hear from one of his published letters has had similar experiences. Sure, *many* are probably good natured etc., etc., but buy these things are enough to make one wonder. And the woman in Yonkers sent good material, not just junk. One guy she sent stuff to was on Novice Column in one issue and next issue of R&M, he is advertising sale of rocks!!! That's what I call rapid progress!!! From Novice to dealer!!!

Feb. 1, 1957

An anonymous subscriber

The face on the Pyrite Crystal!

Editor R&M:

I recently bought a copy of the November-December, 1956 ROCKS AND MINERALS. There is no mention within of the perfect face sculptured by the "Pyrite, Ambasaguas, Logrono Province, Spain" 20 pound piece—at least as shown on the cover.

The proportions of the head remind me somewhat of pictures of Thomas Jefferson. If you have trouble seeing the face, squint your eyes and it will be more clear.

Mrs. Edward I. Comins
12 Hawthorne St.
Worcestor 3, Mass.

P.S. For a likness of Jefferson note 2-cent stamp on this letter.

Gloss finish on tumbled stones!

"I am interested in tumble polishing gem stones. At the present time I am unable to get a gloss finish on them. Can any reader help me with my problem?"

M. A. Kortum
1757 Staley Rd.
Grand Island, N. Y.

PEGMATITE MINERALS OF THE UNITED STATES

David M. Seaman
American Museum of Natural History, New York City
Article 7, Silica and Silicates (part two)

GARNET GROUP

The garnets form a group of closely related mineral species; all crystallizing in the isometric crystal system. They are found in igneous and metamorphic rocks Grossularite and andradite garnets are found most frequently in crystalline limestones near contact zones with igneous rocks, and more rarely in pegmatites which cut limestones, dolomites, and marbles. Almandite and spessartite garnets occur most commonly in gneisses, schists, and granite pegmatites. Often the garnets in these rocks have both molecules present so that the composition is somewhere between almandite and spessartite or is called an almandite-spessartite garnet.

It is an interesting observation that most almandite garnets which are found in mica schists are either simple dodecahedral crystals or else have these faces most prominently developed when found in this kind of rock; whereas the almandite-spessartites found in granite pegmatite are predominently trapezohedral crystals or else the trapezohedral crystal faces are the ones most prominently developed. No explanation has ever been presented to explain this observation as yet.

ALMANDITE, or iron-aluminum garnet, is an iron, aluminum silicate. Usually there is also some of the spessartite molecule present or manganese, aluminum silicate, the two garnets grading into each other. Most crystals found are under two inches in diameter but occasionally larger crystals have been found in the pegmatites. A large, nine pound, six ounce trapezohedral crystal of almandite was recovered at 35th Street and Broadway in New York City and is in the American Museum of Natural History mineral collection. An even larger crystal nearly nine inches in diameter, a combination of dodecahedron and trapezohedron, is in the same collection. It was taken from an excavation for the Medical Center at West 166th St. and Knowlton Place in New York City. Both are a part of the New York Mineralogical Club's collection on exhibition at the museum.

Crystals to seven inches in diameter have been found in the Black Hills of South Dakota. Twenty pound crystals have been found in North Carolina. A large nine inch diameter crystal was found in the Pulsifer quarry at Auburn, Maine. Six inch crystals have been found at West Bethel, Maine, and at the Ruggles quarry, Grafton Center, New Hampshire.

Notable excellently formed almandite garnets have been noted from Middletown, Concord, Leiperville, and Newlin, Pennsylvania; Upper Merryall and Haddam, Connecticut; Russell and Westfield, Massachusetts; from Bedford, New York; and many other places. The crystals occur most frequently in common pegmatite with microcline and orthoclase as the chief feldspars present.

SPESSARTITE, or manganese-aluminum garnet, is a manganese, aluminum silicate. It is a rarer garnet than almandite or almandite-spessartite garnet. The most noted locality for gem material in the United States was at the Rutherford mine near Amelia Courthouse, Virginia, where large amounts were found. A half crystal of gem quality, three inches in diameter was found at Haven Avenue and 179th Street in New York City and was cut into fine gems. Noted from Pala, California; Mt. Antero, Colorado; some localities in Chester and Delaware counties, Pennsylvania; in North Carolina, and elsewhere. A large pod of intergrown spessartite and chalcocite was encountered in the Mica Lode pegmatite near the Royal Gorge in Fremont County, Colorado. Common in the pegmatites of Yavapai and Maricopa Counties, Arizona.

GROSSULARITE, calcium-aluminum garnet, or calcium, aluminum silicate occurs in a number of pegmatites. It may

be colored white, pale green, amber-yellow, honey-yellow, wine-yellow, cinnamon-brown, or rose-red. Almandites are usually some shade of red while spessartites are usually red or orange colored.

Grossularite is found in the Ben Nevis Mine on San Augustin Peak, Organ Mountains, New Mexico; in Connecticut, and Pennsylvania; and especially in San Diego and Riverside Counties, California, where gem quality crystals of the variety essonite or cinnamon stone occur in the tourmaline deposits of Mesa Grande, Pala, and Rincon. Also from near North Italian Mountain in the Crested Butte region of Gunnison County, Colorado, in good gem crystals.

ANDRADITE, calcium-iron garnet, is a calcium, and iron silicate. It is less common in pegmatite than almandite or spessartite. It is usually a brown to black colored garnet, especially when found in pegmatite. Andradite has been found at Middletown, Delaware County, Pennsylvania and at other localities in Delaware and Chester Counties, Pennsylvania.

The other members of the garnet group, pyrope and uvarovite, are not found in granite pegmatite.

FAYALITE, is an iron silicate. It is but rarely observed in pegmatite as at St. Peter's Dome, Colorado; and at Rockport, Massachusetts, at which locality some large and unusual crystals were found.

KNEBELITE, an iron and manganese silicate, was found as a rare mineral in one pocket in the pegmatite at Long Mountain, Stark, New Hampshire.

PHENAKITE is a beryllium, orthosilicate. It has a high degree of hardness and is occasionally found in colorless, gem crystals. It occurs in Colorado in crystals to three inches in diameter at Crystal Park near Manitou, in crystals to two inches at Mt. Antero, and in smaller crystals at Crystal Peak near Florissant. From South Baldface Mountain, North Chatham, New Hampshire; Greenwood and Stoneham, Maine; Amelia Courthouse, Virginia. Most of the occurrences are in common granite pegmatite but that at Stoneham and Greenwood, Maine are in lithium pegmatites and in soda pegmatite at Amelia Courthouse, Virginia. Tiny crystals implanted on smoky quartz crystals have been found at Effingham, New Hampshire.

IDOCRASE or Vesuvianite is a basic calcium and aluminum silicate. It occurs characteristically as a contact metamorphic mineral in crystalline limestone with grossularite garnet as a commonly associated mineral. It is rare in pegmatite but has been noted at the United Mica mine on Bucklins Mountain, Springfield, New Hampshire; also from Center Strafford, New Hampshire; and in good crystals from West Paris, Maine.

ZIRCON, zirconium silicate, is a common accessory mineral in igneous rocks as granite, pegmatite, syenite, diorite, etc. The most noted localities in pegmatite are near Zirconia and Statesville, North Carolina where large amounts have been found. Crystals from Statesville reach an inch and a half in length. Oblique and right angle twinned zircons were found in 1898 at the Meredith Freeman mine about two miles from Zirconia. Zircon occurs in a pegmatite in the Game Preserve near Lawton, Oklahoma. Gemmy small crystals are found near St. Peter's Dome, Colorado. From Amelia, Virginia; Rumford, Maine; Bedford, New York; Portland, Connecticut; Crestmore and Ramona, California; the Harding Mine district of New Mexico; and recently in crystals to six inches in length at Pacoima Canyon, N. E. of San Fernando, California.

The localities near Zirconia, North Carolina, were formerly worked as a source of zirconium oxide for making gas mantles and as a refractory material. No gem crystals large enough for cutting have been found in the United States.

CYRTOLITE is a hydrous silciate of zirconium, cerium, yttrium, erbium, and uranium, with calcium, iron, etc. Its crystals are tetragonal and show curved faces. The mineral is radioactive and may

be detected with a Geiger counter.

It occurs commonly in many pegmatites as in Maine, New Hampshire, Connecticut, New York, Texas and other states Large masses were formerly obtained from Barringer Hill near Bluffton, Llano county, Texas. Cyrtolite has been noted in pegmatite at Rumford, Maine; Grafton and North Groton, New Hampshire; Branchville and elsewhere in Connecticut; at Bedford, New York

THORITE, thorium silicate, has been found in a pegmatite at Franklin, New Jersey.

AUERLITE is a supposed silico - phosphate of thorium. It was found as a rare mineral in the zircon pegmatites of Henderson county, North Carolina.

DANBURITE is a calcium and boron silicate. It was first found at Danbury, Fairfield county, Connecticut in a pegmatite cutting dolomite, with microcline and oligoclase feldspars. Similarly it has been found near DeKalb Junction and also from Russell, New York from the latter locality in crystals to four inches in length.

TOPAZ is a hydrous aluminum fluosilicate. It occurs most frequently in cavities or pockets in granite pegmatites and occasionally in the surrounding gneisses and schists. It is also frequently found in rhyolite.

It has been noted both in the common and lithium types of pegmatite. A pocket in the Fisher quarry at Topsham, Maine opened in 1933, yielded twenty-five pounds of etched colorless and light blue gem crystals. Six of these crystals weighed a pound or more and the largest was just under three pounds and measured 4½ x3x6 inches. Gem topaz has been found elsewhere in the lithium pegmatites of Maine at Stoneham, Buckfield, and Mt. Apatite at Auburn. A crystal from a tourmaline pocket at the latter locality yielded a fine blue gem of 43¾ carats.

Colorado pegmatites have produced fine topaz crystals mostly from the common type of granite pegmatite; in the Taryall Mountains north of Lake George; the slopes of Pikes Peak, Cheyenne Mountain, and from Mt. Antero. Associated with the amazonstone, or green microcline, excellent gem topaz have been secured from Devils Head, Crystal Peak near Florissant, and from Crystal Park near Manitou.

South Baldface Mountain near North Chatham, is New Hampshire's most noted locality where crystals to four inches in length have been found often associated with phenakite crystals and smoky quartz crystals in common pegmatite. It has been noted at Stark, Milan, Berlin, near Springfield, and from near North Conway also in New Hampshire.

The lithium pegmatites of San Diego and Riverside counties in Southern California have produced magnificent colorless and light blue gem crystals of topaz as at Rincon, Aguanga, Mesa Grande, Ramona and Warners Hot Springs. Topaz has been noted five miles north of Trimer, in Fresno county, California.

Gem topaz have come from near Streeter in Mason county, Texas and also from the Williams mine, nine and one-half miles northeast of Dahlonega, Lumpkin county, Georgia.

Large rough, opaque topaz crystals have been noted in some pegmatites weighing up to several hundred pounds. One crystal from the Morefield mine near Winterham, Virginia weighed five hundred pounds, and was nearly four feet in length. Crystals to a foot in length have been found at Stoneham, Maine and also at Ohio City, Gunnison county, Colorado. Small crystals have been noted near Monroe, Connecticut and larger masses at the Tungsten mine near Trumbull, Connecticut.

The gem varieties are the only topaz which have been used, though the massive type could be used as a valuable abrasive. The so-called smoky topaz of jewelry is not topaz but smoky quartz often heat treated to give it a yellow topaz color.

ANDALUSITE is an orthorhombic, aluminum silicate. It occurs usually in gneisses and schists associated with kyanite, sillimanite, and staurolite; and only occasionally in pegmatite.

Andalusite occurs in pegmatite at several localities in California where it has been worked economically for refractory purposes as at Coahuilla Mountain and near Winchester in Riverside county. Some crystals from Coahuilla Mountain have

reached fifteen inches in length. Immense crystals to six inches in width and to two feet in length have been found in Bautista canyon southeast of Hemet, California. Also noted about eight miles southeast of Friant in Fresno county, California.

Andalusite also has been found at Silver Hill near Spokane, Washington; Standish, Maine; at Leiperville and Upper Providence, Delaware Co., Pennsylvania; and in excellently terminated crystals near Berne, Custer county, South Dakota.

SILLIMANITE, is another aluminum silicate with the same chemical composition as both andalusite and kyanite. It usually occurs as fibrous and massive columnar forms. It is rarer in pegmatite than both kyanite and andalusite.

Only a few pegmatite occurrences of sillimanite are known; Silver Hill near Spokane, Washington; Winchester, California; and seven miles west of Canon City, Colorado.

KYANITE is triclinic, aluminum silicate. It occurs similarly to andalusite and sillimanite, chiefly as a metamorphic mineral in gneisses and schists with these minerals and also with dumortierite. It is not uncommon in some pegmatites.

Large crystals occur in pegmatite cutting gneiss at the Celo Mine near Burnsville, Yancey county, North Carolina to an inch and half in width and three feet in length. The kyanite of this mine has been used for making refractories. Noted also at Dundee Falls, Maine; Norwich, Connecticut; East Bradford, Pennsylvania; and at a number of pegmatites in North Carolina, Georgia, Alabama, New Mexico and Wyoming usually in small amounts.

DATOLITE is a basic orthosilicate of boron and calcium. It occurs most commonly in basic eruptive rocks with calcite, prehnite and various zeolites. It is a rare mineral in granite pegmatite but it has been noted at Crestmore, Riverside county, California and in some of the pegmatites of the Bearpaw Mountains at Montana.

GADOLINITE, is a highly complex silicate of beryllium, iron, and yttrium. It may also contain cerium, lanthanum, neodymium, praseodymium, erbium, scandium, and other rare earths. It occurs most often in pegmatite with fluorite, allanite, and other rare earth minerals.

Large masses of gadolinite to two hundred pounds in weight were formerly found at Barringer Hill near Bluffton, Llano county, Texas. A twin crystal from there weighed seventy-three pounds. Reported from a locality about twenty-five miles southeast of Hackberry, Mojave county, Arizona. Occurs near Florissant, in the Yard pegmatite near Buena Vista; and in masses to twenty pounds in weight in the Pine Ridge pegmatite near Cotopaxi, all in Colorado. Also from the Petaca district, New Mexico.

YTTRIALITE, a silicate of thorium and yttrium metals chiefly, occurred associated with the gadolinite of the Barringer Hill, Texas locality.

ROWLANDITE, an yttrium silicate is another of the rare minerals which occurred with the gadolinite at Barringer Hill near Bluffton, Llano county, Texas.

MACKINTOSHITE, a silicate of uranium, thorium, cerium, etc., occurred also at the gadolinite locality at Barringer Hill, Texas.

THOROGUMMITE is still another silicate of uranium, thorium, and cerium. It occurred as an alteration product of mackintoshite along with other rare earth minerals at the gadolinite locality near Bluffton. Llano county, Texas.

ZOISITE is a hydrous, basic, calcium and aluminum silicate. It occurs commonly in crystalline schists formed by metamorphic processes. It is occasionally found in pegmatites and then chiefly as the pink variety known as thulite which contains a small amount of manganese.

The thulite variety has been found in pegmatite chiefly in a belt running from eastern Pennsylvania through Maryland, Virginia, North Carolina to Stone Mountain, Georgia. The most numerous occurrences are in the Spruce Pine district of North Carolina. Some of these are the Smith, Pine Mountain, Davis, and Putnam mines. Also at the Deer Flat, Flat Rock, and Chestnut Flat mines near

Penland; the Buchanon, and Hawk mines near Hawk; and the Young and Cloudland mines north of Bakersville, all in North Carolina.

Thulite has been found at Leiperville and Avondale in Delaware County and near Sylmar in Chester county, Pennsylvania; in Virginia at the Wheatley mine near Moneta, Bedford county; in Maryland at Stony Run, Hampton, Baltimore county; in Georgia at the Ethal quarry at Stone Mountain; at Crestmore, California; and reported near Pillar Post Office, Taos county, New Mexico.

The common type has been noted at Lewiston, Maine and Franklin, New Jersey.

CLINOZOISITE is another hydrous, basic, calcium and aluminum silicate. It occurs in pegmatite at the Frost quarry near Davis, Howard county, Maryland.

EPIDOTE is a basic, calcium, aluminum, and iron silicate. It is found most commonly as a metamorphic mineral in mica schist, gneiss, amphibole schist, quartzite, and crystalline limestone; occasionally in pegmatite.

Noted as a rather rare mineral in pegmatite near Zirconia, North Carolina; at Rincon, Fairplay, and Crestmore, California; Harding Mine, New Mexico; Franklin, New Jersey; and elsewhere..

ALLANITE is essentially a basic calcium, iron, aluminum, and cerium silicate sometimes also with Di., La, and Y. It occurs in a number of pegmatites usually those carrying the rare earth minerals as gadolinite and fergusonite. Fine large crystals eight to ten inches in length and from six to eight inches in width have been found at Mineville, New York. It formerly occurred in large masses to three hundred pounds in weight at the gadolinite locality of Barringer Hill, Texas. Noted also at Fitchburg, Massachusetts; Portland, Connecticut: Amelia, Virginia; Little Switzerland, North Carolina; Bedford and DeKalb Junction, New York; Lime Crest, New Jersey; near Exeter, Pala, and Crestmore, California; in crystals several inches in length at the Luella pegmatite near Buena Vista, and at Trout Creek Pass in Chaffee county, Colorado. Recently in crystals to a foot and a half in length at Pacoima canyon, northwest of San Fernando, California.

AXINITE a hydrous aluminum borosilicate with calcium, manganese and iron; has been noted in pegmatite at Crestmore, Riverside county; at Fairplay, El Dorado county; and near Bonsall south of Pala, San Diego county; in California.

PREHNITE is an acid orthosilicate of calcium and aluminum. It occurs most commonly as a secondary mineral in basic eruptive rocks as basalt with some of the zeolites, datolite, pectolite, and calcite. It is rare in pegmatite but has been noted in the pegmatite cutting trap rock at Woburn, Massachusetts. Also in pegmatites of the Beaver Creek Stock in the Bearpaw Mountains, Montana; and at Crestmore, California.

BERTRANDITE is hydrous, beryllium silicate. It occurs in pegmatite associated with beryl from which it has formed as a secondary mineral. It is also found as pseudomorphs after beryl.

Bertrandite is found both in common and in the lithium types of pegmatite. At Mt. Antero, Colorado it occurs in common pegmatite associated with deeply etched and partially dissolved beryl crystals. Many lithium pegmatites in Maine have yielded bertrandite as at Stoneham, Greenwood, Albany, Brunswick, and Auburn. At Portland and Bethel, Connecticut; Amelia, Virginia; and Bedford, New York.

Fine bertrandite pseudomorphs after beryl crystals were recently found at Beryl Mountains, South Acworth, New Hampshire.

CERITE is a hydrous silicate of the cerium metals chiefly. It has been noted in Colorado in four pegmatite dikes two miles north-east of Jamestown, Boulder county.

TORNEBOHMITE is another silicate of the cerium metals. It occurs together with cerite in a pegmatite dike located two miles northeast of Jamestown, Boulder county, Colorado.

(To be concluded in next article)

WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED ... PLEASE SEND THEM IN.

ALABAMA—James Miller Davis, 212 Guaranty Savings Bldg., Montgomery Ala., sent in the following item:

"Limonite after pyrite, I have found in fairly nice specimens in an old road bed in Lee County, Alabama, about 10 miles north of Auburn, Ala., on Highway 147 Take any of the old dirt roads about this distance from Auburn, off 147,and nice specimens of the above will be found."

ARIZONA—A nice specimen of a black lustrous mass of gadolinite has been received from John S. Albanese, P. O. Box 221, Union, N. J.

"From near Kingman, Mohave Co., Ariz."—on label.

ARKANSAS—Small, red xls of cinnabar have been found on quartzite at Amity, Clark Co., Ark.

CALIFORNIA—The following item was sent in by Miss Helen E. Wright, Rt. 4, Box 248, Gainesville, Fla.

"Thought you might like an item on California from our 1950 trip west.

"We traveled down the coastal Hwy, Rt. 101, and Rt. 1, always staying as near the ocean as possible, from Crescent City, Calif., to Moro Bay. When we crossed the Coastal Range to get to Crescent City I noticed a great deal of serpentine and picked up some that was translucent, others that were colorful and similar to that at Tilly Foster, N. Y. Thereafter, all the way down the State wherever there was an outcrop it always seemed to be serpentine, a few times the rock was a brownish-gray volcanic rock and was in coarse 'crystals' of about fist size or a bit larger such as one sees near formations similar to the Devil's Post Pile, tho smaller. Many times the serpentine seemed to take this formation also, so probably the sepentine is an alteration from this rock. In fact the serpentine was so plentiful that traveling back across the coastal range from Moro Bay to Bakersfield we travled many miles on a serpentine road!

"Across the Golden Gate Bridge we visited the Muir Park of Big Trees which is. near a peak called Mt. Tamalpais. There is a road up it, clear to the top, and we went up for the fun of it to see what we could see. There too and all the way up was serpentine, some on top was lovely."

COLORADO — Here is an item on Colorado that was sent in Jan. 16, 1957, by Richard Schooner, P. O. Box 215, East Hampton, Conn.

"Some good specimens of mesolite, thomsonite, chabazite, and analcite can still be obtained from the noted old locality on North Table Mountain, above Golden (Jefferson Co.), Colorado. I got up there twice, while in the area in the autumn of 1955, and brought back one superb group of white analcite crystals——compound crystals, a couple of inches in diameter. Except for a bit of blasting for specimens, there hasn't been any work done at North Table Mountain for many years. The Colorado School of Mines Museum, which is one of the finest I've ever visited, exhibits some remarkably good zeolites which were taken out during the period when the locality was active."

CONNECTICUT — The following item, dated Jan. 14, 1957, comes from Richard Schooner, P. O. Box 215, East Hampton, Conn.

Conn.

"Still another mineral has come to light at Collins Hill (near Portland, Middlesex Co.), Conn. (see my article in the July-August, 1955, issue of R&M). This one is malachite, which occurs as bright green stains on cleavage surfaces of epidote at a vein near the old Hale-Walker Quarry —perhaps a third of a mile from the Strickland Quarry. Chalcopyrite is disseminated through such epidote at several other places in Portland and Glastonbury, and malachite is usually present as an alteration. Quartz veins, traversing the Glastonbury gneiss, are liable to contain eqidote, and good crystals have been secured at two or three places—including the vicinity of this Collins Hill malachite occurrence. A green coating on pegmatite, at the Hale-Walker Quarry itself, was seen a few years ago. It was probably malachite too. The pegmatite is locally unusual for the association of magnetite and beryl crystals. It was recently called to my attention. by my friend Bob Gallant, of Moodus, that glassy feldspar crystals in that pegmatite are occasionally chatoyant. I haven't seen a play of colors in any other feldspar from this region."

DELAWARE—In a large excavation along the right hand side of U. S. 40. in New Castle Co., Del., 2 miles west of the city of New Castle, brown pebbles of jasper appear to be plentiful.

FLORIDA—The Southeastern Mineral Co., Box 2234, Lakeland, Fla., has donated an interesting calcite specimen—colorless, xled on coarse xline white limestone. "From the Ocala Limestone at Crystal River, Citrus Co., Fla. It is fluorescent and phosphorescent under long wave U. V."—on label.

GEORGIA—Large nodules of andalusite were brought to the Department of Mines in August, 1955, by Hon. Joe Boone of Milledgeville who discovered them in Baldwin County, Ga., between the State Sanitarium and Oconee River. A preliminary field examination has since shown that andalusite-bearing rocks crop out over an area of several square miles in and near Milledgeville.

"The andalusite occurs in two forms: nodules and porphyroblasts. The nodules are flattened ellipsoidal masses of variable size, scattered irregularly through gneiss and schist. The largest are up to 1 foot thick. The core of each nodule is granular, pale red andalusite; in it are a few small grains of bright blue corundum. The margin of the nodule is a sheath of greenish mica which close inspection shows is a mixture of chlorite, biotite, and muscovite. The porphyroblasts are in biotite-muscovite-quartz schist. They range in size from one to ten mm and make up as much as 20% of the rock.

"This is the first reported occurrence of andalusite in Georgia."—GEORGIA MINERAL NEWSLETTER, Winter 1956, p. 125 (Published by the Georgia Geological Survey, 19 Hunter St., Atlanta, Ga.—Editor, A .S. Furcron).

IDAHO— G. Elmo Shoup, Box 756, Salmon, Idaho, sent in an interesting specimen consisting of white feldspar, smoky quartz, and silvery muscovite. Green incrustations of malachite coats most of the feldspar.

"From Eagle Mine, Mineral Hill Dist., Lemhi Co., Idaho."—on label.

ILLINOIS—We are indebted to H. E Chelf, 131 Terrace View Lane, Peoria, Ill., for the following item, dated March 7, 1957.

"I have no notable finds except perhaps one of my men brought in a perfect clam altered to pyrite with a xl cluster of 1"x1½" on one end; the entire specimen was 4½" long, clean and brassy. Found at Danvers, McLean Co., Ill., in a real deep gravel pit. It is good enough that I have it placed in my collection."

INDIANA—B. E. Coffman, 1115 So. Adams St., Marion, Ind., sent in a couple of petrified coral specimens which he had found. The specimens are grayish in color whose exterior surfaces are stained brown. The coral has been replaced by bluish chalcedony; the cavities of the coral are lined with colorless drusy quartz. Under the long wave the chalcedony fl. a bright

yellow (fl. a feeble yellow under the short wave).

"I picked these up near a gravel deposit in Grant County, Indiana, near the city of Marion."—on label.

IOWA—"On our various trips out West we have always made it a point to stop off at West Bend, (Palo. Alto Co.,) Iowa, where one of the most outstanding outdoor exhibits of colorful minerals can be viewed by any tourist willing to spend the time.

"For the Rockhound the place is a definite 'must', and we are surprised that no mention of it has been made lately in R&M, especially since so many new members have been added to our chip and lick fraternity in the last few years.

"We refer to the famous West Bend Grotto of the late Father Dobberstein.

"There you will find thousands upon thousands of minerals and crystal groups assembled into decorative panels, completely covering every inch of surface, presented by several acres of structures, including the Stations of the Cross.

"These specimens are not of the so much per pound variety, but consist mostly of splendid crystal groups and polished agates which any collector would proudly display in his cabinets.

"In one of these various grottos is a replica of Christ's sarcophagus, the entire inside of which is lined with polished agate slabs of most exquisite patterns and colors. It is all the painstaking, personal work of Father Dobberstein, with specimens gathered from all over the world and all hand-placed into fresh cement, until every exposed surface was completely covered. Practically the work of a lifetime! West Bend is located in Palo Alto County, about 50 miles west of Mason City, south of U. S. Highway 18, on Iowa 44.

"To view this collection is an unforgettable experience." — letter dated Jan. 30, 1957, from Mr. and Mrs. W. M. Krause, 14190 Glastonbury Road, Detroit 23, Mich.

KANSAS — Walter Brannan, Idana, Clay Co., Kans., has sent in some dark gray chalcedony pebbles which he had collected in Idana.

KENTUCKY—Dark gray fossiliferous limestone occurs on the Fort Knox Reservation, Hardin Co., Ky.

LOUISIANA—"Enclosed is a sample which I would thank you to identify for me. I think it is chalcedony. It was found with many other pieces in gravel in what is known as Clear Creek in western Vernon Parish, La.

"How are you? Still young, I presume. I am still kicking at the age of 75 (March 17, 1957)."—letter dated March 7, 1957, from Lovett Word, Box 1129, Leesville, La.

Yes, the specimen is a chalcedony, a flat gray and brown mottled water-worn pebble but it is also petrified wood (wood replaced by chalcedony).

MAINE—We just ran across the following letter, dated Sept. 4, 1956, sent in by Charles F. Marble, Buckfield, Me.

"Nice article about the Byron, Maine, gold by Mrs. Wentworth (Hunting gold in Maine, by Ruth H. Wentworth, July-Aug. 1956, R&M, p. 353). The gold is there in the river gravel and in seams in the rock—mostly fine stuff but sometimes in large nuggets. I have seen two or three nuggets that were kept that would weigh out at $20 by the old valuation."

MARYLAND—"Under separate cover, I am sending you a specimen which I would like to have identified. At the same time you could put it in your 'World News' department.

"This specimen was found on the dumps of a clay mine near Frostburg, Allegany Co., Maryland. This type of material was along the shrinkage cracks of hematite concretions which were common on the dumps.

"It is interesting to note that the idea to go to Frostburg was furnished by the Jan.-Feb. and the May-June issues of this year's R&M, which told of minerals occurring at Frostburg."—letter dated Nov. 6, 1956, from Allison Cusick, RD #1, Unionport, Ohio."

The specimen is a handsome drusy barite (brownish, sparkling, iridescent barite xls). Some tiny, limpid rock xls are embedded in the barite. In the May-June 1953 R&M, appeared a 4 page, illustrated article on "Minerals of the Frostburg Clay Mine," by Harold Levey.

MASSACHUSETTS—"The old lead mine at Loudville (Hampshire Co.), Mass., is well worth a visit—though preferably not on as stormy a day as I chose, last summer.

There are extensive dumps, particularly along the river (Manhan), and much material remains to be broken and examined. The locality is famous for its wulfenite crystals, which are probably the best to be collected in the eastern part of the country. I'd seen crystals, of an orange-red color, up to a quarter of an inch across, but I didn't find any of that type in such a size. However, I did secure a 2 by 3 inch mass of quartz with an isolated tabular yellow crystal, a quarter of an inch square. Pyromorphite, mostly as green coatings, is rather common. Copper minerals are present, and I obtained some attractive chrysocolla and small malachite crystals. Good little cerussite crystals were found in one block of quartz. Galena, sphalerite, chalcopyrite, and chalcocite are easy to find. In addition, there are some green and blue secondary minerals, passed off as 'malachite' and 'azurite' by most collectors, which are very likely smithsonite and lead and copper sulfates. I wish I'd been able to spend more time there."—letter dated Jan. 14, 1957, from Richard Schooner, P.O. Box 215, East Hampton, Conn.

MICHIGAN—"I am enclosing a chip from a rock I picked up on the beach at St. Ignace (Mackinac Co.), Mich., while on a vacation trip this summer. I've been attempting to identify it and believe it is a specimen of opal, but I am not sure. I will appreciate your identifying it for me. I have a large part of the specimen left—please do not bother to return this small piece to me."—letter dated Dec. 11, 1956, from Spencer L. Freeman, M. D., 115 E. Washington St., Kirksville, Mo.

The specimen is a gray gypsum schist, a rare type of rock and the first we ever saw.

MINNESOTA—A dark red, pitted carnelian (quartz) 1½x1½ inch pebble, was sent us Feb. 15, 1957, by Mrs. Ed Olson, Beresford, S. D. It was found in a gravel pit at Hopkins, Hennepin Co., Minn.

MISSISSIPPI—From a mineral collector's point of view, Mississippi is a state void of minerals and yet with search some interesting minerals have been found but generally in small quantities. It may come as a pleasant surprise to many to learn that a petrified forest, of all things, exists in Mississippi! This petrified forest was called to our attention by an article in the December 1956 issue of FORD TIMES (Ford Motor Company, Dearborn, Mich). This article is titled "Mississippi's Petrified Forest," and was written by William E. Sorenson, (one painting by Ben Earl Looney.) Part of the article, which appears on pp. 36-37, reads as follows:

"Mississippi's petrified forest is a strange and imposing spectacle, for here you will find trees that lived thousands of years ago perfectly preserved in shape and detail. Such forests, mementos of mighty cataclysmic upheavals that occurred in far distant times, are rare. Yet this one, in a quiet spot located on the rolling, tree-dotted plain near the town of Flora. (Madison Co., Miss.), on State Highway 49, is still not widely known.

"Erosion, devouring a hillside over the centuries, with each raindrop carrying off an infinitesimal particle of soil, has uncovered numerous petrified logs. Exposed like the bleached bones of some colossal monster are the stony remains of an ancient growth of conifers. Some of the trunks are shattered. Others are fifteen to twenty feet long and are two to four feet in diameter. They vary from gray to orange in color. In one trunk it is still possible to trace the annular rings; this tree was nearly one hundred and fifty years old when raging torrents tore it from the ground.

"It has been determined that the gnarled relics were once coniferous trees, related to the present species of fir, spruce and pine. The lack of any root structure is further evidence that the trees were swept in from some far-away spot.

"This site, where living pines now stand like lofty sentinels at the burial mound of time-hallowed distant relatives, is about two miles off the main road and is well worth a visit. It is open to the public.

MISSOURI—"Please let the readers know of this find.

"Long wave fluorescent calcite occurs on highway 67, approx. 4 miles south of highway 110 in Jefferson County, Mo. This is multicolor material, it fluoresces red, light green, purple, yellow, under long wave.

"Short wave will show faint red or yellow."—letter dated March 4, 1957, from Robert L. Isslieb, Rt. 3, DeSoto, Mo.

Please, Mr. Isslieb, send in more items on your state.

MONTANA—The following letter, dated Dec. 15, 1956, comes from Gerald J. Navratil, 243 Farragut Parkway, Hastings on Hudson, N. Y.

"No telling when this will be completed and mailed but I am jotting down mineral notes for the column 'World News On Mineral Occurrences' as they come to me:

"Butte, Montana: Unfortunately, the exact mine from which this specimen came is not noted on the specimen. All it bears is 'Butte, Montana,' and it is certainly one of the Butte suite. The matrix is comprised of massive, compact copper-stained quartz. The chief mineral upon the matrix is enargite in the orthorhombic xls, intermixed with small quartz xl groups (small delicate needles) with an occasional modified iron pyrite cube. Upon some of the pyrite and enargite xls are small, yet visible with the unaided eye, small prismatic xls of selenite. The selenite xls are colorless to glass-clear.

"Peter A. Smith in his article 'Minerals of the Butte District, Montana', ROCKS AND MINERALS, Vol. 16, No. 7 (July, 1941) mentions merely that gypsum 'occurs as white crusts and incrustations in old mine workings and on mine dumps.' He does not mention selenite in detail. I wonder if this has been mentioned in publications since the above mentioned issue of ROCKS AND MINERALS? (Also on this same specimen are several blades (black to dark-gray) of pseudomorphs of chalcocite after covellite.)

"Smith in his article (cited above) does not list digenite and I wonder if a follow up or correction was made to his article. It would seem probable that this mineral was known at the time the article was written. Several specimens I have of this mineral are a dark blue in color associated with chalcopyrite. At first glance the digenite can be readily mistaken for bornite, the peacock ore of the Butte District but familiarity with the mineral makes the difference readily apparent without tests."

Editor's note—No corrections or addition was ever made to Smith's article. We are glad to make them now.

NEBRASKA—I. Everett (Everett Lapidary Shop), 2941 N. 65th St., Lincoln, Nebr., has donated some dark brown petrified wood pebbles. These were found in gravel pits at Ashland, Saunders Co., Nebr.

NEVADA—"Sure enjoy R&M and have visited many of the western localities described in it, also other collecting areas in these western states. There is an especially interesting garnet locality, very close to the main highway just a short distance from Ely (White Pine Co.), Nev. This Ely locality would be of special interest to collectors coming from the east. The crystals collected here are a beautiful deep red-brown and are quite plentiful, averaging about ¼" to ½" in size."—item from anonymous reader.

NEW HAMPSHIRE — "The Smith Mica Mine, near Newport, (Sullivan Co.,), New Hampshire, is still a good place to visit. I spent three days there,

early in September. The owners live within a stone's throw of the locality, and they charge a dollar a day for each collector. It's certainly worth all of that, if one is acquainted with some of the rare phosphates which occur there. I did not get any of the fine magnesian triphylite crystals which used to be found in some quantity, but I got several very good specimens of brazilianite. Many masses of iron-stained pegmatite in the first dump, which seems to be the newest one, contain seams which are lined with small yellow crystals or radial groups. Brazilianite is not at all rare at the Smith Mine. Superb golden crystals have come from there, in recent years, but I saw only one example of such material on my visit . . . an almost solid mass of brazilianite, with well developed crystals in a couple of vugs. Unfortunately, it was too battered to make a worthwhile specimen. I collected very good augelite too . . . or what I've been told is augelite. It occurs as pale blue masses with siderite. Bright blue lazulite is also present. In all, a number of rare phosphates and other minerals have been reported; the Smith Mine is a 'must' for the collector of such items.

"I was very fortunate in having met Miss Mary E. Mrose, of the U. S. Geological Survey, at the Smith locality. It was she who described hurlbutite, a new calcium beryllium phosphate, from there, in 1952, but neither of us could find any on the September visit.

"Some very interesting specimens of rare phosphates were collected at the Palermo Mine, in North Groton, (Grafton Co.,), New Hampshire, early in the summer. A concentration of such minerals, near a large body of triphylite, had been opened by collectors. It was fascinating to see the association of the various minerals right in the pegmatite. There was a very narrow zone of rockbridgeite between the triphylite and the aforementioned rare phosphates.

"Then there was a highly irregular zone of neomesselite, which yielded solid masses up to three or four inches across. Some of the neomesselite was fresh and white, with a radiating platy structure and an almost pearly luster, while other areas of it were altered and tan. Seams and vugs in the neomesselite, were stained yellow with a xanthoxenite-like mineral, and there were literally thousands of tiny orange laueite crystals, arranged into drusy crusts. The tendency of the neomesselite to break into small pieces made it virtually impossible to obtain laueite specimens of more than an inch across, but the quality of the crystals left little to be desired. On a few specimens, they looked like vanadinite crystals . . . though triclinic, and not of a remotely similar form.

"Tufts of golden strunzite fibers were intimately associated. Some of the laueite, and most of the strunzite, was in vugs of siderite crystals, in a zone of that mineral directly over the neomesselite. Small colorless whitlockite crystals were scattered through the material. In the siderite zone, which was a random mixture of granular and cleavable forms of the mineral, there were cavities of several inches in length, one of which furnished a magnificent, sharp, smooth-faced crystal of siderite, an inch square. One loose group of parallel whitlockite crystals popped out while the siderite was being broken. There was a thin outer zone of siderite, in contact with the ordinary pegmatite above. The siderite was partially altered to goethite.

"Separating the two zones of siderite, was a long diagonal zone of a peculiar white apatite, with some whitlockite intergrown. This material was fairly abundant. A few spots were slightly bluish and resembled augelite . . . which has been reported from the locality. At the lower extremity of the rare phosphate concentration, the triphylite and white apatite were separated by a two or three inch zone of practically solid apple-green ludlamite, containing vugs of small but distinct crystals. The triphylite itself was stained blue with vivianite, and it contained disseminated masses of reddish-brown wolfeite . . . small, but hardly to be found anywhere except at the Palermo Mine.

"It was an invaluable lesson in mineral associations, and probable modes of formation, just to see this concentration of rare phosphates in situ."—letter dated Jan. 14, 1957, from Richard Schooner, P.O. Box 215, East Hampton, Conn.

NEW JERSEY—"I have been meaning to send you for some time a sample of some petrified wood that I have found here locally. Then just this winter I got another sample of harder wood—about two miles from the site of the first find. Enclosed under separate cover you will find two pieces of each.

"Type 'A' is from a log about 18" dia. x 8 ft. long uncovered in a gravel pit about 1948.

"Type 'B' is from a chunk about 2 ft. long found along the bank of a stream about 1955. Both are from So. Harrison Twp., Gloucester Co., N. J."—letter dated Feb. 9, 1957, from Bennett S. Pancoast, Box 194, Woodstown, N. J.

Type 'A' is a gray and brown material, with a wavy structure and very attractive. Type 'B' is a deep black wood (one surface gray). Though all specimens are of good quality, they appear to be too porous for polishing. This is the first petrified wood we ever saw from south New Jersey.

Edward T. Barone, 48 Elmwood Road, Verona, N. J., reports on one of his own finds as per his letter, dated Feb. 24, 1957.

"A gravel pit on Little Falls Road, in Cedar Grove (Essex Co.), N. J., has yielded many fine specimens of fluorescent travertine. The travertine, which fluoresces a fine yellow under long and short wave u.v., is found as a thick xline coating over pebbles and rocks of a 'cement-like' conglomerate. This unique find may be due to the fact that the lower glacial drift of this area was probably deposited in a lake bed."

NEW MEXICO — Flattened, lustrous, copper-red masses of native copper have been found in the copper mines at Santa Rita, Grant Co., N. Mex.

NEW YORK—Green, radiated platy masses of actinolite have been found in Yonkers, Westchester Co., N. Y., by John Kuhhorn, Germantown, N. Y. The locality is on the Bronx River Road, between Yonkers Ave., and McLean Ave. Mr. Kuhhorn found the actinolite last December, it was embedded in the ground.

NORTH CAROLINA—Xline, green masses of olivine have been found at the Harbison Walker Refractory Co. mine, Addie, Jackson Co., N. C.

NORTH DAKOTA—Pottery clay suitable for stoneware occurs in Billings County, N. D., near Sandcreek post office.

OHIO—"I am sending you a specimen which was collected at an abandoned coal strip mine near Bergholz, Jefferson Co., Ohio. As you can see it is white xls on sandstone with aragonite veins. Sometimes it is in the aragonite itself."—letter dated Jan. 10, 1957, from Allison Cusick, RD #1, Unionport, Ohio.

The 'white' xls are tiny colorless, rhombohedral xls of calcite in a cavity of dark gray sandstone which contains thin veins of white fibrous aragonite.

OKLAHOMA—Not long ago, Frank R. Lytle, 411 N.E. 9th St., Oklahoma City 4, Okla., sent us a clipping from his local newspaper relative to a salt plain near Cherokee, Alfalfa Co., Okla. According to the clipping the salt bed covers 30,000 acres of pure white salt but 1/3 of it is covered by water at times.

OREGON—John Albanese, P.O. Box 221, Union, N. J., sent us a specimen consisting of beautiful white, sharp stilbite xls with colorless calcite xls on a pale grayish-green matrix.

"Stilbite, near Lowell (Lane Co.), Oregon. Recently found by U. S. Geological Survey workers on project."—on label.

PENNSYLVANIA—J. Kenneth Fisher, 147 Fairlamb Ave., Havertown, Penn., sent in the following item, dated Jan. 9, 1957.

"Considerable hyalite has come from the Morrow (Leiper's) Quarry, on Route 320 between Swarthmore and

Chester (in Delaware Co.), Penn. Also quite a bit of torbernite with some autunite and a very little uraninite. The finds were made by Wm. Weigelt, Albert Ave., Aldan, Pa."

RHODE ISLAND — "At Diamond Hill, Providence Co., R. I., quartz xls are found in all the colors of the rainbow. On the north rim are found red xls, rose xls, milky xls and orange xls. A few clear xls are found also. I have been there four times but have found only two clear xls.

"On the southeast rim are found agate, jasper, jasp-agate, barite and limonite.

"If anyone wants some xls and can't get there, just send me something to put them in and I will send it. Please state size wanted, what kind wanted, and also please enclose stamps for postage."—Edward Carey (11 yrs.), 200 Atwell Ave., Providence, R. I.

SOUTH CAROLINA — In Union County, S. C., at the old Nott Gold Mine, 4 miles southeast of Glenn Springs, thin sheets of native copper were found occupying narrow vertical cracks in a quartz hornblende schist.

SOUTH DAKOTA—From Milltown, Hutchinson Co., S. D., we have a dark brown claystone concretion that had been sent us by Mrs. Edwin P. Olson, Box 425, Beresford, S. D. The concretion was heavily coated with dark brown quartz grains and though we brushed off enough grains to make a sand sample the specimen was still coated with quartz.

TENNESSEE—James R. Broyles, P.O. Box 984, Marion, Ind., sent in a dark-gray fossiliferous limestone specimen, whose fossils are small sea shells.

"Found near Rogersville, Hawkins Co., Tenn., by Joe Brooks. He also found several small snake-like forms (fossils), one 18 inch fossil fish, and several small fossil minnows. Joe's address is Tennessee St., Morriston, Tenn."—on label.

TEXAS—Dark brown limonite concretions occur along the Colorado River, north of Lohn, McCullock Co., Texas.

UTAH—The following, dated Jan. 14, 1957, was sent in by Richard Schooner, P.O. Box 215, East Hampton, Conn.

"In the May-June, 1955 issue of the AMERICAN MINERALOGIST (pages 469 to 480), Rosenzweig and Gross described a locality for several rare sulfates, including a new one, goldichite, in Emery County, Utah. Not long after the appearance of that article, my friend, Bill Reid, and I, were traveling through the desolate area beyond the San Raphael River, 'near' Green River, Utah, and decided to look at the locality. By a miracle, we followed the right turnoff across the desert and reached the base of Calf Mesa, where the sulfate occurrence (the Dexter No. 7 Uranium Mine) was supposed to be. Climbing toward the top of the mesa, we easily found the spot which had been mentioned in the AMERICAN MINERALOGIST article. It was nearly unbelievable, considering that we were not in Chile! In fact, it was the most beautiful assemblage of minerals which I had ever seen in situ.

"The aforementioned article said that the sulfates, cementing talus fragments, were derived from sulfides in an ore body in the Shinarump conglomerate, twenty-five feet above the contact with the Moenkopi formation. We saw a vertical wall, ten or fifteen feet wide and twice as high, composed almost entirely of the sulfates. It looked as if the rock had been thoroughly cracked and filled with the hydrosoluble minerals. Be that as it may, it was a wonderful thing to behold. Coquimbite was especially abundant, with seams of a foot or more in length being covered with transparent royal purple or lavender crystals, up to half an inch in diameter. They looked remarkably like the similarly colored apatite crystals from Auburn, Maine, and other New England localities.

The coquimbite crystals were characterized by short hexagonal prisms and large basal pinacoids, with slight pyramidal development. Much of the coquimbite was partially covered with delicate white fibers of halotrichite, and the new mineral goldichite . . . was intimately asso-

ciated. The goldichite occurred as divergent acicular crystal aggregates, having a light green color by sunlight and a lavender tint by artificial light. Brown crystals of roemerite were very plentiful in the lower part of the vein, with some of the individuals measuring a quarter of an inch across. There were also some large masses of white or very pale pink alunogen, and aggregates of golden scales of copiapite. On either side of the coquimbite-rich zone, but especially on the left, there were irregular, nodular masses of bright orange diadochite, a sulfate and phosphate of iron, implanted on grayish-green fibroferrite.

"The latter, in fairly pure form, was common at the entrance to the main tunnel of the mine, a short distance to the right of the vein. Above the recently exposed part of that vein, over the level of the mine, much sulfur could be seen, with a melted appearance on the surface. Other minerals exist at the locality; Rosenzweig and Gross mentioned melanterite, chalcanthite, butlerite, parabutlerite, voltaite, zeunerite, and meta-zeunerite. The sulfides include pyrite and chalcopyrite. A few loose plates of selenite were observed around the bottom of the mesa, and a nondescript brownish type of silicified wood was seen in the sandstone. There is also a uranium-bearing hydrocarbon at the mine, which probably accounts for its having been opened.

"The coquimbite and other sulfates are fairly stable in the dry air of the San Raphael Desert region, but the few specimens that I brought back to Connecticut have fared badly, even though coated with plastic spray. In fact, I have only two specimens of the coquimbite, and they are hardly as attractive as they were a year ago. A few diadochite and fibroferrite specimens have proven to be more durable. Despite their unstable nature, those Utah sulfates were fascinating to see and study."

VERMONT—Richard Schooner, P.O. Box 215, East Hampton, Conn., sent in this item, dated Jan. 14, 1957:

"I visited the old Carlton talc mine, near Chester (Windsor Co.), Vermont, last September. The water-filled shaft had apparently been pumped out, earlier in the year. The dumps turned out to be surprisingly small, probably indicating that the deposit had a preponderance of saleable talc which was carted away. It must have been quite a number of years since the mine was active. I was able to collect beautiful specimens of columnar green actinolite and foliated (and crumpled) white talc. The locality used to be widely known for the fine large pyrite crystals which were embedded in dark green chlorite, but I couldn't find any of that material. One large boulder was filled with magnetite crystals, but they weren't of the best quality. A great deal of common serpentine is still to be seen."

VIRGINIA—R. Clyde Brown, P.O. Box 154, Fieldale, Va., sent in a specimen consisting of small, black, botryoidal psilomelane crusts on iron stained brown and yellow shale.

"It's from the top of Potts Mt. (El. 3400 ft.), Craig Co., Va., and is from a shaley formation containing much 'worm-hole' fossils as well as an occasional trilobite."—on label.

WASHINGTON — From Puyallup, Pierce Co., Wash., we have a dark green, coarse xline mass of diopside that was sent in by Robert J. Smith, Rt. 2, Box 190, Puyallup, Wash.

WEST VIRGINIA—Dale Ingersoll, 2906 Grand Ave., Parkersburg, W. Va., informs us that pale brassy pyrite nodules up to 2" in diameter, occur in a coal mine at Morgantown, Monongalia Co., W. Va.

WISCONSIN—Buddy Hermann (age 9), Four Seasons Club, Pembine, Wisc., sent in a specimen consisting of green talc on massive smoky quartz.

"It was found on Miscauno Island in the Menominee River 12 miles southeast of Pembine (Marinette Co.), Wisc. It was taken from a large slate formation." —on label.

WYOMING — White to grayish concretionary deposits of opal, termed geyserite, occur in the Yellowstone National

Park, Yellowstone National Park Co., Wyo. The opal is found around the edges of various hot springs and geysers where the mineral has been deposited from the hot waters of boiling springs and geysers.

ALASKA — Frank H. Waskey, Oakville, Wash., has sent in a beautiful polished slab of black and white hornblende porphyry. The 4x7 inch specimen consists of large xls of black hornblende with small masses of green epidote embedded in a mass of white albite.

"From Squirrel Creek, Goodnews Bay, Alaska. (See p. 126, U.S. Geol. Survey Bulletin 910-B, Platinum Deposits of the Goodnews Bay District, Alaska)."—on label.

AUSTRALIA—"I am sending you under separate cover three mineral specimens of which two are new to the locality. They are native lead, aurichalcite, and uraninite (var. pitchblende).

"I have collected native lead and aurichalcite myself while I was at Broken Hill last year. The former item was found at the 300 foot level, Proprietary Mine, it occurred as a very narrow seam in coarse grained quartz and sandstone. The latter was collected both at the Central Mine (400 foot level) and Proprietary Mine (300 foot level). Specimen from the Central Mine is found in the highly oxidized copper zone associated with brochantite and cuprite. Those from the Proprietary Mine are different and are associated with cerussite, malachite, azurite, iodyrite, embolite and linarite. They are both rare, particularly native lead which has been found only once and at present the stope is completely worked out.

"The identification work has been carried out by Professor C. D. Hutton of Stanford University, California, 'through Mr. Scott J. Williams of Scottsdale, Ariz. If you intend to publish this letter in ROCKS AND MINERALS I do hope sincerely that you can let me have this opportunity to express my grateful thanks to these two gentlemen.

"The specimen of pitchblende came from the richest uranium deposit in Australia—El Sharana Mine, South Alligator Gorge, N. T. It contains 93% of $U^3\ O^8$ per ton. Specimens from this locality are very difficult to obtain not only due to the difficulty of transport but also it is restricted by the government to the mineral collector.

"I do hope you will enjoy reading this letter and I will let you know of further new discoveries. (Please note my new address)."—letter dated Feb. 26, 1957, from R.C.H. Doo, 290 Glebe Point Road, Glebe, Sydney, Australia.

Three specimens were received from Mr. Doo. The first consisted of lead-gray native lead associated with greenish aurichalcite and blue linarite. Its locality is the Proprietary Mine, Broken Hill, N.S.W., Australia.

The second mineral consisted of greenish aurichalcite, deep green brochantite and dark red cuprite. From the Central Mine, Broken Hill, N.S.W., Australia.

The third and last specimen consisted of black pitchblende, yellow uranophane, orange gummite, and greenish metatorbernite. It comes from the El Sharana Mine, South Alligator Gorge, N.T., Australia.

CANADA—The following letter was sent in by Mrs. L. R. Haggard, Copper Mountain, B. C., Canada:

"At the present we are situated on Copper Island, my husband on a drilling exploration program. The island is situated in the middle of Babine Lake which is 100 miles long and directly northwest of Prince George, about 200 miles. All supplies come in by boat or plane, depending on the weather or condition of the lake.

"Have located a source of petrified wood up here on the mainland directly across from Copper Island—about 3 miles. It is mostly black and grey and may not be too good for polishing, however, it is quite drift-wood like in appearance taking on different shapes—I have found some with knots. Some is very heavy, having marcasite in it.

"Pinchie Lake is just north of Vanderhoof which is noted for its war-time cinnabar mines.

"Hope to get over to Francois Lake which is about 80 miles from here and see if the museum collectors left any of the amygdaloids of phosphate and asphaltum. The phosphates are collinsite and quercyite, sometimes coated around the outside with wurtzilite asphalt ascribed to metamorphosis of petroleum. They should be interesting if there are any left to be found.

"Here on the island there are copper stains—some bornite and chalcopyrite—but all the crystals to be found are rather minute calcites, quartz, and chalcopyrite, so they are not spectacular.

"Hope I find more northern British Columbia locations for you before we leave here. There are lots of prospects."

———

Over a year ago we received some sands and blue quartz from Goose Bay, Labrador, that had been sent us bv Edward F. Travis, Jr., c/o Fay, Spofford & Thorndike, Sub A, Goose Bay, Labrador, Canada. Before we had a chance to mention these acquisitions, Mr. Travis moved back to the states, his address changing frequently from one state to another. We wanted to check on some details first before printing his letter. Now he is back in Goose Bay again where he expects to remain for a few months. Here is his letter, dated Feb. 15, 1956

"You need feel no embarrassment at not knowing where Goose Bay is, as it doesn't appear on many maps. Goose Bay is at the southwestern end of Lake Melville, and on the Hamilton River, where it empties into Terrington Basin. It is approximately 75 miles from Hamilton Inlet on the North Atlantic Ocean, and was just a name until the Canadians and Americans started the air base in 1941.

"It is very uninteresting, especially so to me, since there are no minerals to be found. I went out frequently with our company geologist, and it's his opinion that nothing worthwhile will be found there due to the old rock of which the whole area is composed. I have forgotten what he called this rock, but apparently where it is found, few minerals occur (and I was hoping to uncover perhaps some more Paterson, N. J. quarries). But there is a fine collecting area right in New York City which I think I will visit Saturday. (Ed. note—letter was written in Clifton, N. J.). It is called Hugh Fords and excellent specimens can be found there with no effort at all."

The only mineral sent in by Mr. Travis (the only one he could find) was blue quartz. Though small, only 1x1 inch in size (it didn't come any larger), it was of gem quality—a dark gray-blue mass.

GERMANY—The following letter, dated Jan. 11, 1957, was sent in by Lt. and Mrs. Orville D. Hart, 11th Tactical Missile Sq., APO 130, New York, N. Y.:

"We are stationed here in Germany, very close to the Rauschermuhle Stone Works. The weekend we located the place we were very fortunate that they had blasted open a lovely vug full of prehnite covered with natrolite crystals and some pectolite also. We faceted one clear piece and it had a sort of moonstone effect. Most of the specimens we sent to our friends, George and Mildred Williamson, at the Rock and Shell Shop in Miami, Florida.

"Idar Oberstein is also quite close to us and we have been up there several times to see their fine gem museums."

A second letter, dated Jan. 24, 1957, from the Harts reads:

"In reply to your letter of January 18, inquiring about our prehnite find; the nearest town of any size to the Rauschermuhle Stone Works is Kaiserslautern, (West Germany, near the Saar), which is about 15 miles south of the quarry. The rock quarried is a dark-colored basalt used for road beds and some of the cobblestone streets here in the Rhineland.

"The minerals were located in the upper levels of the quarry in a vug about 2 feet deep and 10 inches in diameter. Encrusting the interior were the following minerals: well-formed crystallized calcite, apple-green botryoidal prehnite masses, some of it encrusted with clear white natrolite crystals from 1/4" to 1 3/4" in length, and also radiating crystals of white pectolite. Some of them made very beautiful hand specimens, particularly the natrolite crystals which are some of the largest we have seen. We have been back there several times since but no more vugs have been opened up so far.

"This last fall we took a trip to Spain also and at Barcelona on Montjuich Hill we also found some of the nice jasper as described in the March-April, 1955 issue of R&M. It is perfectly o.k. to use our APO address in R&M as perhaps we might locate some other Rockhound here in the Kaiserslautern area."

GREECE—Large brassy-yellow pyrite cubes have been found in Chalcidice, Macedonia, Greece. We have seen specimens over 1½ inches on the side, some had small rock xls attached.

GREENLAND—Much if not all of the cryolite mined at Ivigtut, Greeland, is shipped to Philadelphia, Pa., and if one is lucky to get permission to visit a boat bringing in the ore he or she may obtain some choice specimens. J. Kenneth Fisher, 147 Fairlamb Ave., Havertown, Penn., is one of the lucky ones, as witness his letter, dated Jan. 9, 1957.

"From one of last year's boats in from Ivigtut, Greenland, I obtained some barite, fluorite, and gearksutite. Also, an excellently xled specimen of thomsenolite and pachnolite, one of the prettiest things I have seen in years of looking at Ivigtut material."

HAWAII—Good red jasper masses have been found in the Kailua Cliffs at Kailua, Oahu Island, Hawaii.

MADAGASCAR — Shale's Gems & Minerals, Box 35123, Los Angeles 35, Calif., have sent in some ruby (corundum) xls from Ampanihy, Madagascar. They are deep red, loose, platy xls, 1" diam. and very nice—the largest ruby xls we ever saw!

SCOTLAND — Sandy Ramsay, our faithful and most reliable news reporter from 1015 Aikenhead Road, King's Park, Glasgow S4, Scotland, sends in the following items, dated March 20, 1957.

"ROCKS AND MINERALS arrived yesterday, and I see that you are hounding me for copy, before I get to gossiping, here are a few items of information:

"Bill Davidson, the professional collector of minerals from Penrith, Cumberland, England, who has advertised in your columns, sent up some Scottish xls for me in care of Mr. Hood of the Paisley Museum. Some were rock xls and a beautiful little cluster of cairngorm from Goat Fell, the highest hill in the island of Arran, Scotland. He had been given them by an old lady who came from the island, and knowing how keen I was on a specimen of genuine Scottish cairngorm, kindly presented them to me.

"At the same time I saw some fossils which he had sent to Mr. Hood and one of them was an extremely beautiful coral in hematite, the contrast between the white coral and the dark hematite being startling. I have no knowledge of fossils but am told this is an exceedingly rare specimen. The coral is *Lithostrotion martini* . . . maybe I haven't got the spelling correct but you can check it up, it seems strange to find Bill Davidson so interested in corals now.

"The past few years has seen a great increase in the number of people who are becoming interested in lapidary work. When I first started collecting agates at the request of my old friend, Eddie Brant of Anaheim (now resident in Cypress, Cal.), the natives told me that no one ever came collecting for agates any more, but when I visited the village of Usan, Scotland, last year, I was told there was a steady stream of collectors all summer. This is due, I think, to the fact that classes in silverwork at the

School of Art in Glasgow and the Herriot-Watt in Edinburgh have become very popular. Mr. Bennet, a technician in the Department of Geology in Edinburgh, teaches the only classes in lapidary that I know of in this country, the consequence being, that whereas before one could pick up many agate pebbles on the beaches, we must now resort to hard labour with a chisel and hammer.

"At one of the meetings of the Royal Geological Society of Glasgow, a Mr. Sinclair of Stepps brought up a beach pebble from Dunure, Ayrshire, Scotland. This was partially polished to show a dendrite in the chalcedony, and the cognoscenti ventured the opinion that it was a fossil, probably a coral . . . by this time the small fry were permitted to view it and I suggested that it was a very fine moss agate. Later Hugh McCallum came in, saw the specimen, and unaware of my suggestion, said it was a moss agate. The interest aroused in the specimen made Mr. Sinclair go thru the other pieces he had picked up and he came across a very rare agatised coral. (I have lost the account of this by Mr. Hood which I meant to send to you, but am having my partner phone up Paisley Museum for another copy and will send it later).

"ROCKS AND MINERALS Nov.-Dec. issue, under World News, p. 581, horresco referens, Peter, you are in for it. The Washington item by Lieut. Wm. Hiss of the U.S. Air Force, not the ARMY, as you have it. Bill and Mrs. Hiss are just back from a wonderful holiday in Germany, skiing in Garmish-Partenkirchen, then a visit to the little town of Freiburg, where his grandfather came from. He actually met a Hiss who spoke English and was introduced to a 92-year-old fourth cousin. I managed to get Bill a few weathered specimens from the dumps at Strontian, Argyleshire, Scotland, from an University student. The specimens were strontianite, brewsterite and harmotone, with a little fluorescent calcite and aragonite.

"Everitt Berry's daughter writes to tell me that her husband, Lieut. Robert Barker, has now received a posting back home in the States and they leave England early in April, after a most enjoyable stay in Norfolk, England. I suppose they do have rain in the States, so the weather wouldn't count too much when assessing their enjoyment.

"Have been getting letters from another U. S. Air Force wallah, 'Spud' Candler, from Hunstanton in Norfolk. 'Spud' comes from Idaho, but has spent considerable time in California, also 4½ years in Tampa, Fla. He has started the hardest job in his life, getting lapidary equipment in this country. Will be able to help him a little, but can't send him any cutting material as my saw blade has quit on me. He does not subscribe to R&M but I'm sending him up a copy to see what it is like; hope he decides to take out a subscription to your magazine.

"The Royal Geological Society of Glasgow holds its Centennary next year and I am trying to get together a small exhibit of unusual and 'odd' specimens of minerals to show at the big night. Thanks to my many friends in the States, I already have quite a few pseudos and other unusual items, but I will have to scout around for a few more to give a decent sized display. I will get some flexible sandstone from the good friend who paid my first sub to ROCKS AND MINERALS, Willard Olsen, of New Port Richey, Fla.

"The agate on the front cover looks real good (Jan.-Feb. 1957 issue, R&M), and it's a pity it can't be done in real colour, as the 'Sunset' agate would be terrific. Also that pat on the back for the calendar (p. 2). I will have to take the magazine up to the 'Scots Pictorial' people and show it to them. Willard Olsen says that for a guy who gets so much publicity, it's a pity that I have nothing to sell."

THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC
PEEKSKILL, N.Y.

Garnet sand from Big Sur, Calif.

Some few months ago we received a sample of garnet sand from Vincent Morgan, Box 542, Boron, Calif. The sample is a dark red, fine grained sand consisting chiefly of gemmy pink garnet with small amounts of colorless to smoky quartz, black lustrous magnetite and green epidote.

"I am mailing you this small vial of sand which I thought you might find interesting. This is beach sand from the almost inaccessible ocean front west of the Big Sur State Park, north of Sam Simeon, Calif.

"Normally I am not a sand collector, but this looked so intriguing that I had to scoop some up and bring it home. I hope you find it of interest. I have more should anyone be interested." — note on label.

Big Sur, in Monterey Co., Calif., is on the Pacific Ocean.

Brook sand from Guna Brook, Conn.

About a mile west of Cornwall Bridge, Litchfield Co., Conn., and along the right edge of Conn. 4, is Grist Mill Parking Area that is maintained by the Conn. State Hwy. Dept. Ten feet to the left of Conn. 4, at this point, is Guna Brook, a 25-foot wide swiftly flowing stream of water which empties into the Housatonic River at Cornwall Bridge. From the north edge of Guna Brook the Conductor of this department collected a sand sample when the locality was paid a visit on March 14, 1957; James and Winnie Bourne and family were also present. It was thought that magnetite and garnet would predominate in the sand but this was not so. The sample is a dark gray, coarse sand consisting of quartz (smoky, brownish), flesh colored feldspar, black biotite, silvery white muscovite, dark gray mica schist, dark gray phyllite, and a little black magnetite.

The locality is in a heavily wooded, hilly section — not a house is visible until Cornwall Bridge is reached and this is only a tiny hamlet.

Monazite sand from Cascade, Idaho

"Here is a sand sample sent me by Geo. A. McDowell, Inspector of Mines, Boise, Idaho. He states that this sample came from Baumhoff-Marshall Dredging Co., located in Valley Co., Idaho." — letter dated March 18, 1957, from Chas. R. Lamb, Long Beach, Wash.

The sample is a fine grained, brownish sand. It consists chiefly of resinous brown monazite with smaller amounts of lustrous black magnetite and colorless brilliant zircons (fl. brown under long wave). A few flakes of yellow gold also present.

Desiring to pin-point the locality on a map, a letter was sent Mr. McDowell for more information.

"The sample of monazite sand you requested information about comes from the dredging operations on Clear Creek, three miles north of Cascade (Valley Co.). Idaho, on Highway 95." — note dated April 2, 1957, from Mr. McDowell.

Beach sand from Cranes Beach, Mass.

Cranes Beach, on the Atlantic Ocean, is about 5 miles east of Ipswich, Essex Co., Mass. From the beach we have a sand sample that is medium grained and grayish in color. The sand consists chiefly of quartz (colorless, smoky) with brown-

ish feldspar, pinkish garnet, greenish epidote, colorless muscovite and a tiny amount of black magnetite.

Beach sand from Baraga, Mich.

Baraga, in northern Baraga Co., Mich., is at the southern end of Keweenaw Bay. From the beach at Baraga we have a sand sample that was sent us by Harry A. Laurent, Box 345, Nashville, Mich.

The sample is a medium grained, black sand consisting chiefly of blackish basalt with green epidote, colorless quartz, and a tiny amount of black magnetite.

Garnet sand from Kingsland Point, N. Y.

Kingsland Point, a mile north of Tarrytown, Westchester Co., N.Y., is on the east bank of the Hudson River. Kingsland Point, maintained by the Westchester County Park Commission, has a small bathing beach that is very popular with summer visitors.

From the beach we have a sand sample that is coarse grained and of a grayish-red color consisting chiefly of smoky quartz and pinkish garnet with black lustrous hornblende and black magnetite.

Muscovite sand from Leapwood, Tenn.

An anonymous reader sent in this sand sample that is a dark gray, medium grained sand consisting chiefly of silvery muscovite with fine grained gray clay. Some colorless quartz also present.

"From Coon Creek near Leapwood, McNairy Co., Tenn." — on label.

River sand from Clarksville, Texas

Mrs. Ruby Renfro, 2901 Bomar Ave., fort Worth 3, Texas, sent in this sample which is a medium grained, brown sand, consisting entirely of brown quartz.

"Sand from Red River County, at ferry (over Red River) north of Clarksville, Texas." — on label.

Obsidian sand from Tooele County, Utah

This is a black, lustrous, medium grained sand consisting entirely of black, lustrous, pitted obsidian. The sample was sent us by Chas. R. Lamb, Long Beach, Wash.

"Sand was sent by Mr. Raymond Warner who got it from a flowing spring in Tooele County, Utah, south of Great Salt Lake. Said it might be obsidian. But he states that there are no surface indications of this rock (obsidian) within many miles of this county. This is just as it was dipped out of the spring with water dried out of it." — letter dated March 18, 1957, from Mr. Lamb.

Beach sand from Barter Island, Alaska

A subscriber who wishes to remain anonymous sent in this sample which is a dark gray, medium grained sand. The sample consists chiefly of quartz (smoky, colorless, brownish, milky — gray to brown chalcedony, black basanite, reddish jasper), and feldspar (gray, brownish, colorless) with smaller amounts of black ilmenite, gray basalt, and tiny amounts of green epidote and black magnetite.

"Beach sand from the northern shore of Barter Island, Alaska. From the air the island looks like a three-cornered cookie with a dab of jelly in the center. The 'jelly' is a fresh water lake." — note on label.

Barter Island, in the Beaufort Sea, is near the northeastern coast of Alaska, about 75 miles northwest of the Canadian border.

Beach sand from Cape Sable Island, N. S., Canada

For this sand which comes from an interesting locality we are indebted to Mrs. Olive E. Looney, Lincolnville, Maine The sample is a medium grained, gray sand consisting entirely of quartz (colorless to smoky).

"Beach sand from McCoy's Point, Cape Sable Island, Nova Scotia. Collected Aug. 1954. It was collected by my sister. She said the beach was about a mile from where she was staying at Clarke Harbor." — on label.

Cape Sable Island is about 7 miles long, north and south, and 3 miles wide in extreme width. The extreme southern point of the island (on an islet) is the ill-famed CAPE SABLE, from whose conspicuous white sands comes the name Cap aux Sables, or the Cape of Sands. Clarke Harbor is on the southern coast of the island which is in the Atlantic Ocean off the southeastern coast of Nova Scotia, Canada.

Cape Sable Island is termed "the Graveyard of the Atlantic Ocean" because of the more than 200 wrecks of ships on its sandbars.

Beach sand from Toronto, Canada

Toronto, the 2nd largest city of Canada, is in the southern part of Ontario Province. Toronto (Huron Indian word meaning "place of meeting") 250-300 feet above sea level, lies on the north shore of Lake Ontario in a large and sheltered bay between the rivers Don and Humber. The bay is formed by a narrow sandy island (Wards Island) about 6 miles long enclosing a fine harbor. Wards Island is the Margate or Coney Island of Toronto and is frequented in summer by large crowds. Like Coney Island (of New York) it is nothing but a large sand-bank fringed by flimsy summer cottages and studded with places of amusement.

On Sat. July 9, 1955, the conductor of this department with John W. Edwards of Wyebridge, Ontario (at that time residing in Toronto) as guide, paid a visit to Wards Island.

The ferry (10c) went due south for about 1½ miles and landed on the north shore of the island. A walk of about a 1000 feet in a southerly direction and over flat ground brought us to Wards Island Beach on the south shore of the island. The beach (on Lake Ontario) appeared to be about 1,000 feet long and 100 feet wide. Of course a sand sample was collected here.

The sample is a medium grained, dark gray sand. It consists of quartz (colorless, Smoky, brownish), feldspar (pinkish, whitish), green epidote, black lustrous tourmaline, black magnetite, silvery muscovite, pinkish quartzite, brownish zircon that fl. orange, and lake shells (brown, white).

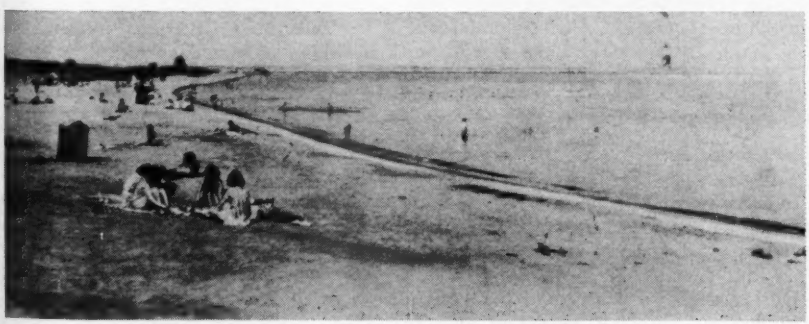
Barking sands of Mana, Kauai, Hawaii

For this interesting sand sample, we are indebted to Miss Winifred H. Arnold, 2020 Magnolia Ave., Long Beach 6, Calif. The sample is a brownish, medium grained sand and all sea shells (brown, white, yellow, pink) except for a tiny amount of dull black magnetite.

"From a newspaper article 'The barking sands' of Mana, Kauai, where the Garden Island's main airport is located, are one of the phenomena of the islands.

"The sand dunes that stretch about half a mile along the Nahili district shore are unique for their peculiar properties which cause them to emit a sound like the barking of a dog when they are agitated. The 'barking' varies with the degree of dryness of the sand and the amount of friction employed. The movement of the sand down the hills ranges from a faint rustling to a deep rumble. When the sand is damp, there is almost no sound. However, why the 'barking sands' bark has never been satisfactorily explained by the scientists.

"In the newspaper April 22, 1940. 'Kauai's famous Barking Sands have been found to be of utilitarian value beyond that of providing a slide for tourists. The territorial board of health has certified the sand to be of the proper consistency and cleanliness to provide a filter material for water filtration plants. In fact, the Barking Sands are practically the



Wards Island Beach, Wards Island, Toronto, Ont., Canada

only sands on the west side which the board of health would certify as correct material for this use.' — on label.

Mana is on the west coast of Kauai Island of the Hawaiian Islands.

Shell Sand from Midway Island, North Pacific

Miss Winifred H. Arnold, 2020 Magnolia Ave., Long Beach 6, Calif., has sent us another sand sample with some interesting notes on its locality. It comes from Midway Island, a U. S. possession in the North Pacific Ocean. Midway Island received its name because of its location — midway between Asia and America.

The sample is a medium grained, cream colored sand consisting entirely of sea shells (cream to white in color that fl. yellow under long wave).

"Midway Islands have become the most famous locality in the northwestern part of the Hawaiian archipelago. This atoll crowns the summit of one of the last peaks in this huge mountain chain. It is 1150 nautical miles northwest of Honolulu, and 50 miles east of Kure, the final island of the chain.

"The atoll consists of a nearly circular rim of coral reef, about 5 miles in diameter, enclosing a lagoon, the central portion of which ranges in depth from 25 to 50 feet, surrounded by a considerable expanse of shallower water. Close to the southern rim of the atoll lie two low islands. Sand Island, the larger, measures a mile and a half long by a mile wide, and has a hill which reaches a maximum elevation of 43 feet. Formerly composed of nearly bare sand, man has planted grass, shrubs and trees upon it until now much of it is well wooded. Eastern Island is triangular in shape, about a mile and a quarter long by three-quarters of a mile wide.

"Midway was discovered July 8, 1859, by Captain N. C. Brooks of the Hawaiian bark Gambia and by him called Middlebrook Islands. A cable station was established in 1903. Pan American established an airport at Midway, beginning in 1935 on the northeast end of Sand Island. During the next few years there was a sudden awakening of interest in Midway on the part of the U. S. Army and Navy. By Executive Order, dated February 14, 1941, Midway was made a national defense area. It has been under the jurisdiction of the U. S. Navy Department since Jan. 20, 1903, and never officially had been part of the Territory of Hawaii". (Quoted from 'American Polynesia and the Hawaiian Chain' by E. H. Bryan, Jr.) — on label with sand sample.

Another item from Miss Arnold reads: "I spent one night on Midway. We came in on the Pan American Clipper in the late afternoon from Wake Island. Some of the passengers went swimming, others watched the strange antics of the gooney birds, I collected my samples of sand. The shallow water by the pier is a lovely light green with the white coral sand bottom. We took off at dawn from the lagoon. You will recall the turning point in the war — The Battle of Midway."

The sand sample which Miss Arnold collected in July 1941, comes from the beach on the northeastern end of Sand Island.

Beach sand from Portör, Norway

Some few months ago one of our good subscribers, Mrs. W. Hasselgren, Reginsvagen 6, Bromma, Sweden, sent us a number of sand samples among which was one from the little village of Portör near Kragerö in southern Norway. The sample is a medium grained, gray sand consisting chiefly of colorless quartz with a small amount of sea shells (white, pinkish, purplish) with a tiny amount of green epidote and black magnetite (some grains contain magnetite embedded in epidote).

"Collected in Portör, Norway, from the shore at an old graveyard by the sea (Skagerrak or North Sea)" — on label.

Beach sand from Solosolo, Samoa

Upolu, one of the Samoan Islands in the South Pacific, is about 43 miles long and 10 miles wide. It is one of the Western Samoa group and is administered by New Zealand. On the northern coast of the island is the village of Solosolo and from its beach we have a sand sample that was sent us by Max Haleck, Pago Pago, Tutuila, American Samoa. The sample is a dark brown, fine grained sand con-

sisting of olivine (brownish, gemmy) and black magnetite. Some tiny whitish sea shells also present.

Beach sand from Southend, Argyle, Scotland

Southend is a little village on the North Channel, which separates Ireland from Scotland, in Argyleshire, Scotland. About 5 miles west of Southend is the Mull of Kintyre, a rocky promontory against which the sea beats with tremendous force that is fearful to behold in rough weather. From Dunaverty Beach at Southend we have a sand sample that was sent us by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland.

The sample is a fine grained, gray sand consisting chiefly of quartz (colorless, brownish, reddish, white) with some sea shells.

"Southend, a friend tells me, is just a tiny village with a hotel and a few houses. Kintyre was formerly spelled Cantyre." — note from Sandy.

Both the Mull of Kintyre and Southend are at the southern end of the long Kintyre Peninsula which projects into the North Channel.

River sand from Aliwal North, South Africa

Aliwal North, Cape Province, South Africa, is situated on the south bank of the Orange River which here forms the boundary between Orange Free State and the Cape Province. The river is spanned by the Frere bridge, 860 feet in length.

From the river at Aliwal North we have a sand sample that was collected for us by F. C. M. Bawden, P. O. Box 1167, and Mrs. I. N. Gush, P. O. Box 1128, both of Johannesburg, South Africa. The sample is a very fine grained, gray sand consisting largely of dark gray clay with smoky quartz and some dull black magnetite.

"River sand (Orange River) below weir, Aliwal North, Cape Province." — on label.

Beach sand from Sitjes, Spain

From Sitjes on the Mediterranean sea, in northeastern Spain, we have a sand sample that was sent us by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland. The sample is a fine grained, gray sand consisting of sea shells (brown, white) and colorless quartz. Some silvery muscovite and colorless zircon (fl. orange) also present.

"Beach sand from Sitjes, near Barcelona, Spain. Sitjes is a small holiday resort about 30 miles southwest from Barcelona. Collected whilst on holiday by my friend, John Coulter." — on label.

The graveyard by the sea.—one of the sands was taken from this shore—Portbór, Skatóy (County), near Krageró, Norway.

WOMEN'S CORNER OF R&M

Conducted by Winnie Bourne
c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

On a warm day last April, we made a trip to Bear Mt. State Park, a large rugged area in southeastern New York. Bear Mountain Park, on the west side of the Hudson River, is full of abandoned mines and we headed for one of them, the Bradley Iron Mine near Lake Tiorati. The Bradley mine is not only one of the most easily reached localities in the Park, but is also one of the most interesting.

To reach the mine, we crossed the river via the Bear Mt. Bridge (about 3 miles north of Peekskill) then on the west side we followed U.S. 6 (all the way from Peekskill) and then (about 3 miles west of the bridge) we switched on to the Seven Lakes Drive. At Lake Tiorati traffic circle (at very beginning of the lake) we turned right on the Arden Valley Road, went about one mile and parked at the Bradley Mine historic sign (right of road). A path starts here at the sign, winds up the side of the mountain to the right, and terminates at the mine about 500 ft. away.

My two girls, Barbara 8, and Kathy 6, were with me and we were guided to the mine by the Editor of R&M.

Though a collector may not find the Bradley mine a profitable one for mineral specimens, he will be more than repaid by the mine's scenic setting, and some geological features which were pointed out to us by our competent guide. The path was strewn with magnetite (small to large masses but of no special interest) and practically all of the dump had been carted away for road fill throughout the park.

The mine is entered by means of a long rock cut, about 150 ft. long, 30 ft. high, and only 6 ft. wide. About half way in, two dark brown porphyritic camptonite dikes were to be seen—they stand almost vertical. These, when broken open, had a greenish cast and were full of lustrous black xls of hornblende. This was my first view of a dike and I was thrilled! From here to the mine itself, the passage was down grade and snow-covered with bits of ice here and there. It was a little dark and gloomy and it was only too evident that sunlight seldom enters this passage. Suddenly we stood at the opening of the mine itself—a huge, round opening leading into an awesome cavern! The cavern (mine) was full of water, so much water in fact that the Editor, himself, was astonished. He had never seen so much water in the mine before. Due to the high water, the mine itself could not be entered. All I could do was to gaze and wonder what lay in the darkness ahead. Some day I will be back and if the water is low will explore the old mine.

The only specimens collected at the Bradley Mine were magnetite (coarse, xline) and camptonite with hornblende xls.

TRIP TO TILLY FOSTER, N. Y.

A mineral trip which I shall never forget was the one I made to the world-famous Tilly Foster iron mine at Tilly Foster, N. Y. The trip was made Tuesday, April 16, 1957, with my daughters, Barbara and Kathy, and their godfather, the Editor of R&M. The State Geological Survey at Albany, N. Y., needed some information on the present conditions at the old mine and had requested the Editor to make an investigation and he in turn invited us to go with him. It had been a number of years since the Editor made his last visit to Tilly Foster and

during the past few months a number of distressing reports have been arriving at the office of R&M about the mine dumps shrinking or being carted away bodily. So we were all eager to visit the mine to see what we would see.

The Tilly Foster iron mine is located in the little hamlet of Tilly Foster in the S/E part of Putnam County (about 2 miles northwest of Brewster). The mine, abandoned for many years, is world famous for its large array of most interesting and beautiful minerals such as brucite, calcite, chondrodite, clinochlore, dolomite, epidote, fluorite, magnetite, molybdenite, pyroxene, pyrrhotite, serpentine, tourmaline, etc.

The hamlet was named over a hundred years ago after a farmer, Tilly Foster, who owned considerable property in the area.

We headed eastward from Peekskill on U.S. 6, which road goes past the mine, in fact a short dirt road of about 500 ft. in length leads off U.S. 6 right on to the dumps. Tilly Foster mine, the Editor told me, is one of the easiest spots to reach of any mine or quarry, working or abandoned, in the East.

We had gone about 20 miles when we reached Carmel, the county seat of Putnam County, then about 1/4 mile past the town, we found U.S. 6 blocked off and continued on a detour. This was something the Editor had not expected—U.S. 6 was under construction. The mine was about 2 miles further on but the Editor told me to stop (I was driving) as the mine may be cut off entirely until the new construction is finished. We decided to go further, took the detour to the right which took us 4 or 5 miles out of the way as we had to go around a huge reservoir and when we hit U.S. 6 again, we were only about a mile past Tilly Foster. A barricade was here to the left, but we went past it and headed for the mine. The reason we did not go past the first barricade—there was a bridge between that point and the mine and it might be out, there were no bridges further until Brewster itself is reached.

Going back towards Tilly Foster, the reservoir was again reached and off to our left was a long flat peninsula of loose rock jutting into the water. That mass of loose rock, so the Editor informed me, was the dump of the Tilly Foster iron mine—the mine is there too! I was dumbfounded when I was told that the flat peninsula, which rose about 50 ft. above the reservoir, was the famous Tilly Foster mine. It looked like a picnic area to me, set in a beautiful lake. I had always imagined that a mine was located in a very rough, rocky country, away from civilization. As we drew nearer, the dump became larger (it was huge in area), we went under a railroad bridge and suddenly two white buildings appeared near the left side of the road—Tilly Foster Farms was painted on them. A historic Tilly Foster Iron Mine sign stood here at the entrance to the buildings and along the left side of the road. We continued about 200 or 300 feet further and turned left on the dirt road which led to the mine.

Near the end of the road a huge pool of water bordered the left edge of the road—it's the shaft of the mine and it is over 600 ft. deep, the Editor informed us. We drove about 100 ft. further, turned left again, went about 100 ft. and parked—on the dump. The dump was huge, minerals all around, but what amazed me— not a sign of ledge rock anywhere! If the ore was limonite or hematite I would expect the mine to be located in a flat pasture land, but the ore of Tilly Foster is magnetite!

"Don't let this upset you," cautioned the Editor, "minerals are found in the most unexpected places and often under conditions that may baffle an expert."

If I was surprised, the Editor was even more, for the large dumps had been completely turned over, tons and tons of it had been carried away, and there were very few if any familiar sites left. Gone were the huge boulders of brown chondrodite, the green clinochlores, the black hornblendes and the varicolored serpentines. No matter where you looked gray gneiss or gray schist stared you in the eye.

True, much of this gneiss and schist was nicely banded, but "why didn't they

take this gneiss and schist and leave the minerals behind? Instead they seemed to have carted away minerals and left the rock behind," the Editor kept repeating over and over. However, conditions were not quite as bad as all that for there were still lots of brown chondrodite, green clinochlore, black hornblende, black magnetite, green serpentine and other minerals scattered all over the dump. The green plates of clinochlore and the slickensided surfaces of the serpentines fascinated my daughters and they picked up some very nice specimens.

No one else was present on the dumps, even the big shovel used in digging the material was absent. There was no activity on the new road—everything seemed peaceful and quiet and we appeared to be the only ones present in the area. On the way out, in passing the Tilly Foster Farms, it occurred to me that I could use some eggs, and so we stopped. The Editor went in for them as he wanted to get acquainted, for the buildings were something new on the site (less than 2 years old). From some men in the office, the Editor learned that the Camarco Construction Co. of Carmel, N. Y. were building the new road, that work had stopped some months ago because of shortage of materials and that they had been hauling away the Tilly Foster material as road fill.

On reaching his office, the Editor contacted the construction company by phone (Camarco Contractors, Inc., P.O. Box 85, Carmel, N. Y.), and learned that they had acquired the entire Tilly Foster mine property a year ago and had been using the dump material as fill on the new road (U.S. 6), and that they will continue to use the material in the future whenever there is a demand for it.

Dear Winnie:

A dull distant sound, which crescendos quickly to a roar, tells us Walker Brook is breaking loose from the icy clutches of Old Man Winter. Watching the frenzied ice, snow, logs, limbs and debris rush headlong to the narrow bridge through which the brook crowds them just before it joins Swift River, we hear another thunder of sound as the river, too, breaks free. The same river that presents such a serene picture in midsummer, inviting us to bathe in its calm, clear water and collect polished rocks and pebbles when warm days shrink its channel.

This repeated thundering and churning is partly the answer to questions concerning its smooth rocks, the ledges split asunder near the canyon, the deep gorge bored into solid rock there, and huge pitted caverns that dot its ledges at the Picnic Area. An awesome sight! A river smashing away the icy chains of winter, all in one grinding, roaring rush of feverish activity. An awesome sight, too, the marks left in its wake after centuries of similar action.

Our fondness for bathing and picnicking along Swift River—just across the highway—led my daughter, Gay, and me to our interest in and study of minerals, just as it has others, young and old in the valley, resulting in the birth here of the Pine Tree Gem and Mineral Club last March.

Swift River's variety of mineral formations includes staurolites in the Byron schist along the Canyon, fans of black tourmaline in varied matrix, quartz crystals in an occasional geode; green, brown, red, purple and sometimes ribbon jasper, honey agates as well as other types, garnets and wee black crystals enclosed in quartzite to form scenic pictures for cabochons; clear, smoky, milky and sometimes green quartz, scheelite, gold for the panning, and many strangely shaped and marked specimens that illustrate the rock formation of our area.

We've recently graduated to visiting nearby mines, but, a January thaw or Spring freshet reminds us again how the river introduced us to this pleasant hobby and even now calls us, noisily, displaying a whole new area for exploring as it turns itself about. An obliging fellow—the river! May your Women's Corner, like the river, stir an increasing tide of enthusiasm in all its readers!

Freeda Thomas
Roxbury, Me.

THE MICRO-MOUNTER

Conducted by Neal Yedlin, 129 Englewood Dr., New Haven, Conn.

This is a delayed column. We are in Alexandria, Virginia and we are trying to organize and decipher notes and memos made prior to our visit here. Let's see.

Our publishing of Desautels' fine article on the Laurium locality a couple of issues ago mentioned, but briefly, the mineral georgiadesite. At a spontaneous and informal session at Paul's home in Baltimore, Md., some time ago (Present - Paul, Lou Perloff, Mary Mrose of the U.S. Geological Survey, Harold Levey, Charlie Smith and Sterling Riley of the Baltimore club, as well as a couple of new members of that organization whose names are blurred on the hastily scribbled notes we made) we reviewed the minerals of the famous Greek locality. The day prior we had been at the U.S. National Museum with Dr. George Switzer and had rehashed the identification of the various rare minerals found in the ancient Laurium slags. Particularly were we interested in georgiadesite. The U.S. National Museum does not have a specimen. Dana's System, volume 2, 7th edition, pages 791 and 792 describes the species, illustrates it, and states, " . . . Only a single specimen is known."

Dr. Switzer mentioned that he had tried to see this specimen at Harvard about a year or so ago. All that was found was a written memo in its place, "Missing from the Collection."

Well, things are not so bad. Dr. Brian Mason of the American Museum of Natural History in New York recently received a specimen of Laurium Georgiadesite. It presently graces the American Museum of Natural History collection and is available for observation. The crystal is in m/m size, in typical slag, and is as pictured in Dana. This is good news. So, those of you who have Dana's "System of Mineralogy" turn to page 792 in volume 2, and with red ink mark out the data about the single specimen being known and write in the following: "A.M.N.H., N.Y. C. - 1 specimen, Harvard University Museum collection - 1 specimen (?), elsewhere - one or more probably."

Thus, we keep you informed on world-shattering events in the field of m/m mineralogy.

A couple of months ago, while the snow covered the ground throughout New England, and collecting as well as temperature was at zero, the habit of amassing of some ten pounds of promising rock from each of half a dozen localities paid off. A carton of cellular quartz from Loudville, Mass. was unearthed, and we proceeded to smash the stuff up into pieces about one inch square for study. Well!!

Let's see, first, whether we can give some data on the locality, so that a trip may be scheduled for late May and early June, before the insects take over. The locality is a wonderful one for m/m and other collectors. In the March-April, 1951 edition of Rocks and Minerals, on page 165, we mentioned a trip to this locality. We were accompanied by Lou Perloff, John Kitson and Joe Rapalus, the last two of Easthampton, Mass. We mentioned the finding of galena, pyromorphite, wulfenite, cerussite, sphalerite, pyrite, malachite and linarite. These were in micro as well as macro specimens. Since that time, during the 1955 floods, the Manhan River washed away much overburden, exposing vast areas of the quartz rock and providing a happy hunting ground for collectors. Kitson has written of a find of a specimen with hundreds of small wulfenites on it, now reposing in the Springfield (Mass.) Museum. Other reports indicate wonderful pickings. For directions - Route 10 to Easthampton. Across from the cemetary adjoining route 10 is a road marked "Loudville Road." This is Glendale Street. Follow this road approximately four miles (It roughly parallels the North Branch of the Manhan River) until the left (south) side of the road falls away

steeply to the river. Climb down to the water (a beautiful, densely wooded area) and attack the white quartz found along the banks. This is pay dirt.

Curiously, some of the best wulfenites have been found on quartz in the river, and have been there for perhaps 150 years. They are none the worse for their water drenching, remarkably stable for so fragile and delicate a mineral.

During the Revolutionary War the area was mined for lead. The galena frequently occurs in isolated cubes within the quartz, and the leaching out of the mineral has left cubic cavities of quartz after galena. It is usually within these cavities that the majority of the fine minerals are found.

Pyromorphite.

All shades from yellow to green. Rarely are base and prism evident. The normal occurrence is as crystallized crusts, and of clusters of small isolated scalenohedrons. One specimen we have has completely lined the walls of a galena cast in quartz. A good deal of the quartz has broken away, leaving a cubic shell of pyromorphite, lined with sharp needles of the mineral.

Wulfenite.

A number of habits. The usual base and pyramid combination is the most common. Where the wulfenite occurs in the quartz this is the predominant form. Where it is found in the pyromorphite, it may occur, not only as a base and pyramid, but as tiny brilliant crystals exhibiting the base and prism. Commonly, isolated crystals of wulfenite sit on a surface of pyromorphite. It is unusual when groups or masses of crystals are evident.

Linarite.

Not infrequently, when the quartz is broken and the galena is in place the outer edges of the lead sulphide appear to be altered and stained blue. Rarely is this blue mineral in crystals, but when it is observed under the 'scope definite signs of tabular crystalization are evident. We were lucky to smash (but gently) a fragment of quartz, finding a vug containing a single compound crystal of the linarite. Flat, tabular and transparent blue it required about 48 X magnification for good observance. It is a prized specimen.

Cerussite.

Along hollow seams in the quartz, and lining vugs and casts are white and grey crystals of this lead carbonate. Many forms occur. Isolated crystals are uncommon, but "L" and "wagon-wheel" twins are usual. Most often they occur on the quartz alone, although we have some that are associated with the drusy pyromorphite.

Anglesite.

Several specimens of what appear to be pseudomorphs after another mineral have been found. Tiny isolated white sugary crystals, hollow, on pyromorphite, line crystals cavities. These have been tentatively identified as anglesite. In addition more normal crystals, showing various habits, have been reported. We do not have any of these, but local collectors have found them.

Galena, Sphaerite, Pyrite, Malachite.

Plentiful. The sphalerite in crystalline masses in the quartz, associated with galena. Pyrite in individual cubes and pyritohedrons. Malachite not common, but as needles and crusts in quartz, adding color to some specimens. These latter-listed minerals occur most frequently in the dumps of the mines several miles from the here-described locality. Not all of these mines are available to collectors, and none have the abundance of pyromorphite, wulfenite and cerussite that occurs at the Loudville locality. This area is worth a day of anybody's time, and it's only four miles from Schortmanns. So hot or cold, mineral hammer or silver pick, you're sure to come home with loot.

ATTENTION SUBSCRIBERS!

ROCKS and MINERALS comes out once every two months as follows:

Jan. - Feb., out about	Feb. 20
March - April, out about	April 20
May - June, out about	June 20
July - August, out about	Aug. 20
Sept. - Oct., out about	Oct. 20

THE AMATEUR LAPIDARY

Conducted by Captain George W. Owens

Hq Sq 384th Bombardment Wing, Little Rock Air Force Base, Jacksonville, Arkansas

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all

Some years ago several very thin slabs of quality jade were bought with the very good idea of making a jade jewelry box, but like a great many of our ideas, this one never matured. It wasn't that the job was thought to be too difficult, but rather that there were so many other interesting things to be accomplished.

The jade pieces gathered dust in our pile of slabs for a year or so, were finally packed and put away with some of our better specimens and promptly forgotten. A few months ago one of those urges to do something—anything—was felt and the slabs were remembered. After looking in practically every box, bin, closet, and even the trunk of the car, they were located in a cigar box stored in the bottom part of the MDR faceting machine. They proved to be of as high a quality as was remembered and while only 2½mm thick, definite possibilities existed. It was decided to make a multi-stone necklace and to shape the stones in some form other than the usual cabochon. After discarding several dozen design ideas, a diamond shape was chosen. This shape exactly resembled the diamond "pip" on a playing card. In fact, the size of each of the stones very closely corresponds to the size of the diamond on a standard deck of playing cards. It was decided because of the thinness of the slabs, to make the cabochons as double cabs with beveled sides and flat tops, the sides to bevel 35° with a thin girdle, rather than have the edges come to a "knife edge".

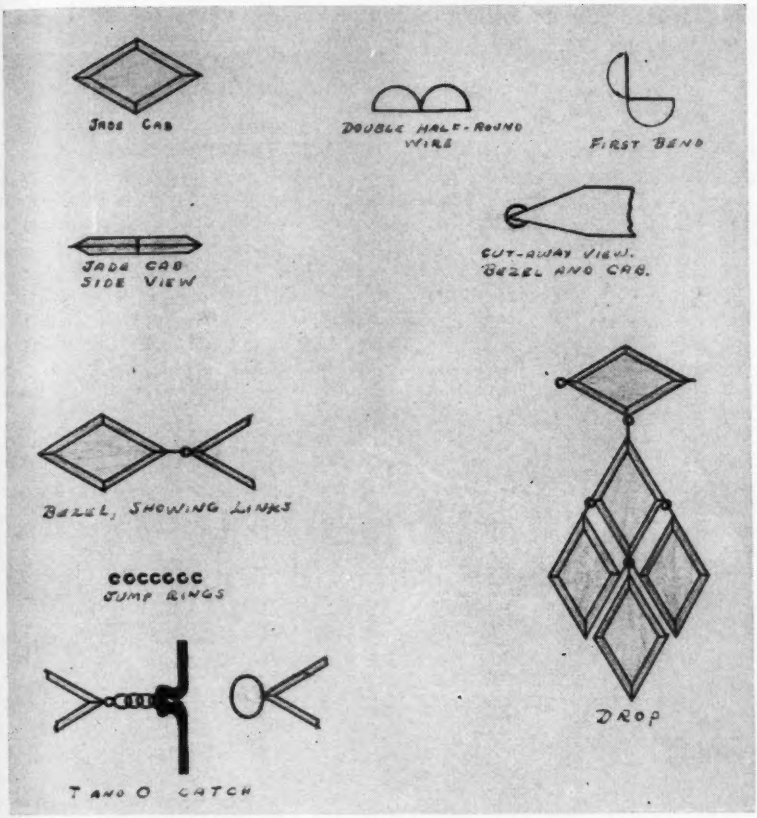
The slabs were marked and sawed into "sticks" of the desired width. Then each stick was marked at an angle so as to result in diamond shaped blanks. Because of the thinness of the slabs and the small blanks desired, all sawing was accomplished on the small MDR trim saw, using a 3-inch diamond sintered blade. The MDR trim saw with this blade is a most efficient machine and blade life has been exceptional. The original blade is still in use after some five years and many many thousands of inches of cutting. MDR of 4853A W. Jefferson Blvd., Los Angeles, California, makes some of the best of equipment for our hobby and offer literature on all their products.

After the blanks were sawed several were dopped in the usual manner and the little Gem Maker started. Due once again, to the thinness of the blank and because a double cabochon was desired, the first grind was with a 320-grit wheel; just enough material was removed to do away with the saw marks, then the first grinding of the bevel was started. And here is where the trouble started! Repeated efforts were made, rests not used, and every effort was expended to get this bevel just right—to come out to a match without having a curved line or one side deeper cut than another. Finally, after enough effort to have cut a dozen regular cabochons, four of these double diamonds were finished on one side and ready for polishing. The jade polished without a sign of "lemon-peel", and while higher polish has been achieved, this would do. One item could not be controlled and that was the gentle rounding of the bevel. This definitely was not the effect that was desired, so after these four "sample" stones had been turned on the dops, shaped and sanded, then made ready for the polishing process, great care was exercised in an effort to control this effect. Results were still short of the perfection desired so all work was stopped while a complete and thorough search was made through every book and paper available to try to locate something on the subject of round-

ing. A few remarks were located in several of the books in chapters dealing with faceting but nothing was found relating to this problem in connection with cabochons. Especially desiring to hold this bevel effect and finding nothing to help in any book on cabochons, the thought came to try one more blank, but to do the work on the faceting machine instead of the Gem Maker. So a blank was dopped on the regular metal dop of the MDR facet head and placed in the 45° angle attachment. An 800-grit diamond on the bronze lap smoothed the top in jig time. Treating this cabochon top the same as the table of a faceted stone, it was then polished. A very high gloss polish was achieved using the MDR lap number 30 and 6400 diamond polishing compound. In fact, this was one of the highest and best polishes on jade that the author has ever obtained. Removing the dop from the 45° angle attachment and replacing in the regular facet arm, the bevels were cut to smooth, sharp, and straight edges in a matter of minutes. The polish was excellent and not a line was rounded! So, at last, the solution was found. In all, twenty-five stones were finished in this same manner. All are of superb polish and none show any signs of roughness (lemon-peel) or any other defect. Really, an excellent batch of stones!

Next step was to devise a suitable method of mounting these little gems of jade. All the usual methods of mounting cabochons were tried but none seemed to "match" with the stones. Finally, in going through the findings box (an accumulation of odd and ends, old jewelry, jump rings, snaps, bits of chain, etc.) a piece of double-half round silver wire was discovered. This wire appeared to be just what was desired. A little work with a pair of smooth-jawed pliers proved the feasibility of using this type of wire as a bezel for the jade gems. The circumference of several of the stones were measured, all were nearly the same. Enough double-half round wire in 14k yellow gold was ordered to make bezels for all the stones as well as several inches of full round wire in a light weight gauge. On its arrival, work was started to make the 25 bezels. Double-half round wire in thin gauge will, when crimped with pressure toward the flat side, bend into the flat side of the wire. By judicious crimping, bending, and filing, a very satisfactory bezel, requiring but one weld was made. Considerable work was involved in controlling the metal as it had a definite tendency to buckle at the bend; however by exerting considerable pressure and some stretching a passable V was made which was further improved by the filing and buffing. The weld was made at the apex of the diamond—if it may be said that a diamond has an apex. By not crimping too much prior to welding it was possible to insert the stone and then finish the crimping job. Later a few strokes of the file and the polishing buff took care of the hump at each corner. Prior to setting the stone it was necessary to attach, by welding, a small ring at each long "end" of the diamond. These rings were made by winding the full round gold wire around a small piece of thin knitting needle, then sawing straight along one side of the needle. The result was quite a few small round "links", needing only to be welded in on spot to be a complete full circle. However, for the use made of them with this bezel, they were not welded but kept just as they fell off the needle. Fifty-one of these small links were required. See diagram.) At the time the joint of the bezel was welded one of these jump rings was placed at each long end of the bezel and welded in place. Note that one was welded in a horizontal position, one in a vertical position and that the "chain" of bezels was commenced by welding two bezels simultaneously, thereafter adding one at a time until the entire "chain" of 21 bezels were connected. The four remaining bezels were welded together as shown in the diagram, to make a small distinctive drop piece which was affixed to the side of the eleventh bezel in the chain.

The chain of bezels was then cleaned, welds smoothed, and buffed with a cloth buff impregnated with red rouge. This buffing was not necessary at this time but was accomplished so that any existing



rough spots could be removed prior to setting the jade gems.

The cabochons were then set, one at a time, into the bezels. Since jade is a very tough substance, no trouble was encountered in closing the wire bezels over the stones. In fact, considerable pressure was exerted, especially around each of the V points. By applying this pressure at these points and working toward a point midway between them, the tendency of the wire to raise at the notch of each V was mostly corrected. A few strokes of a fine file further reduced this "bump" until it could not be observed. The four stones in the drop presented a problem in getting the inside bezel edges down tight. Finally, a flat head punch and a jeweler's small hammer were used with the drop resting on a jeweler's anvil. This method resulted in an excellent closing of the bezel but left quite a few tool marks that had to be laboriously rubbed out by hand using a thin piece of scotch stone.

The clasp was handmade from a short strip of the bezel wire and a large jump ring made from the round wire. It was the simple T and O type. (See diagram.) This clasp is very easy to make and is a positive lock, not depending on any sort of spring action to hold it together.

The clasp was the last of the metal work and was, as mentioned, constructed from bits of scrap. Its parts should be

welded together prior to assembly with the necklace, and the T part should be fixed to the necklace by use of an open jump ring. The large jump ring requires no welding but may be welded if desired.

Once the clasp was in place all that remained to do was to give the metal a final polish. This was accomplished by using a Handee power tool, a small felt polishing burr and liberal amounts of red rouge. The necklace was then washed in warm water with soap and dried.

It was outstanding! The vivid yellow of the gold enhanced the beauty of the green gems of jade. The design is light, airy, modern, truly a worthwhile piece of jewelry any woman would be proud to own - and, made at a total cost of less than some costume jewelry recently advertised in our local paper!

This article was written specifically in as non-technical a manner as possible to attempt to determine from reader reaction as to which type appeals to the greatest extent. It could have been written in such a way as to reflect each step in the process of construction, as well as telling the various sources of supply, the exact types of tools and the total labor involved. Letters to the author will be promptly answered and your kind participation in this column is solicited.

Rules For Henry B. Graves

NATIONAL AWARD FACETED GEMSTONES

1 All competitive exhibtors must be members of a Society which is a member of a Regional Federation, affiliated with the American Federation of Mineralogical Societies.

2 Such exhibitors must be winners of a first place award in a competitive exhibit at an annual convention of their own regional Federation and must furnish a signed statement to that effect when requesting space reservation for national competition. The gems entered need not be the same as those entered in winning the regional award but must be the personal property of and have been cut and polished by the exhibitor.

3 Competitive exhibits must consist of faceted stones only, which may be mounted or unmounted. Mounting will enter into judging only under SHOWMANSHIP. The number of stones entered may be unlimited except on the basis of display area, must be cut from natural materials and the display as a whole shall be judged on the following percentages;

Quality of materials	20%
Variety of materials	20%
Workmanship	40%
Showmanship	20%

4 In judging for VARIETY OF MATERIALS a gemstone shall not be considered as a duplicate if the material from which it is cut is listed in Dana's Textbook of Mineralogy, index of species. Thus, amethyst and clear quartz would count as separate minerals.

5 In judging for WORKMANSHIP, the variety of different cuts, perfection of cutting and polishing, brilliance, etc., shall be taken into consideration.

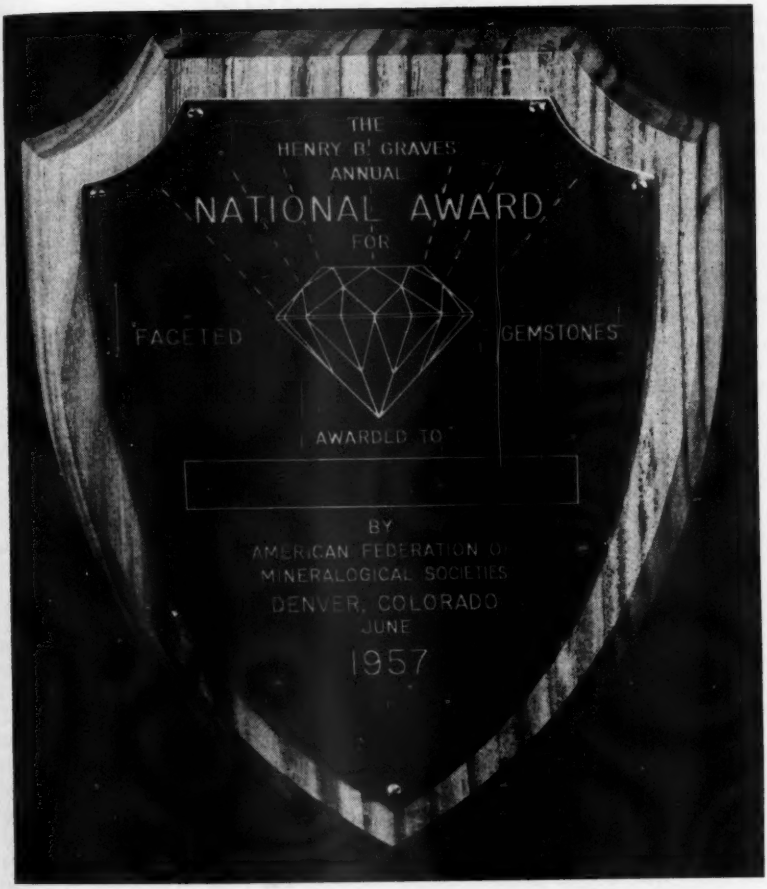
6 SHOWMANSHIP refers to the overall attractiveness of the display as it is affected by color, arrangement of display materials and the use of background materials, mounts and accessories, all of which are at the discretion of the exhibitor.

7 Identification. Each separate material, as covered under rule 4, shall be labeled properly to assist in judging under that rule and the quality of labeling will be taken into consideration under SHOWMANSHIP.

8 Display area shall be limited to 6 square feet.

9 All displays shall be in place, ready for judging, by 10:00 A.M. on the opening day of the convention.

10 An award winner may not again enter into competition for the Henry B. Graves Award for three years after winning same. These rules are established by the donor to govern the 1957 competition but may be changed from year to year if deemed advisable by the Rules Committee of the American Federation.



National Award Plaque

The plaque as illustrated by the above photo will be awarded annually by the American Federation of Mineralogical Societies in the category of Faceted Gemstones. The plaque will become the permanent possession of the winner and his or her name will be inscribed thereon. A new plaque will be furnished each year. Competition will be limited to those who have won first place in the same category at an affiliated regional Federation show and shall be judged under such rules as may from time to time be adopted officially by the American Federation. The first award will be made at the A.F.M.S. competition at Denver in June, 1957.

THE GEM COLLECTOR

Conducted by Bill Cole
408 Dickinson, Chillicothe, Mo.

THE FELDSPAR GEMS

The stones of this family though usually readily available at a moderate cost, are not too well represented in the collections of the average collector of gems. This fact is probably due to the relatively low cost of the material, therefore not being considered a gem by some who feel that only the rarist of material should fall into this category. However what this group of gems lack in popularity they make up for in beauty when properly cut and polished.

All the species of Feldspar have nearly the same physical properties, namely a hardness of 6 to 6½, specific gravity of 2.65, refractive index of 1.55 to 1.56, and a vitrious to pearly luster. The color is really the only property that varies notably as the gem is found from clear and colorless to black with yellow, green, orange, and grey in between and rarely pale blue as in the case of the best grade of Moonstone.

We will discuss here the Moonstone and Amazonite, the two varieties that are the most offered by the dealers in gem materials. However the mineral Feldspar is not limited to these two gem varieties alone for there is also, Labradorite, a dirty-grey variety of plagioclase Feldspar which has a very fine blue iridescence or shiller with green, yellow and red flashes of color that play across the surface of the stone not unlike the Opal. This color play appears in only one plane along the cleavage face and in order for this shiller to show to best advantage in a cut gem the stone must be cut as a flat slab rather than a cabachon with a curved table. There is also the Sunstone, this variety is quite similar in composition to Moonstone but it has tiny inclusions of Hematite along the crystal plane and when numerous enough and when the mineral is transparent enough a fine reddish glow is emitted from the reflection of light off of the Hematite inclusions and a fine gem material is the result. The best source of this type of material is Norway where the Feldspar itself is a golden shade or sort of yellowish and the reflections are made even more brilliant and colorful. The only other variety that is used as gem material to much extent is Albite and as its name implies is snow-white. In some cases Albite clear enough to facet is found and when cut yields a stone quite like Rock Crystal in appearance, and since it is not as durable as Quartz it therefore usually is only cut as a curiosity for a collection. The best specimens of Albite are from the Swiss Alps and the surrounding area.

Well now to get back to what we started off with, Moonstone and Amazonite. First the Moonstone which is the Orthoclase member of the Feldspar family and whose composition is Potassium Aluminum Silicate. It is usually colorless to milky white with a play of light that appears along the cleavage plane. This play of light which is usually just a straight line or even a spot may sometimes be made up of two crossed lines due to twinning and then a star results which is quite a rarity. This play of light which moves around under the polished surface of the gem is caused by thin layers of Orthoclase and Albite and the thinner the layers the deeper the blue color of the light. This phenomenon is known as Shillerization and is most pronounced in this particular variety of Feldspar though it appears in several other minerals. Gems of Moonstone up to several carats in weight have been cut and rank in beauty along with any gem. The principal locality for this material is India and Ceylon where masses up to several ounce in size have been found along with many stream worn pebbles. It has long been a favorite gem of the orientals and has been used as a gem in that part of the world for many centuries.

In cutting Moonstone it is necessary to orient the gem in such a way that the

top of the cap is parallel to the cleavage face in order that the play of light will be centered. It is also wise to cut the cabs rather high as then the light is magnified and made more brilliant. The polishing is quite easy with ordinary methods and the only thing necessary is to be careful while grinding and not be too rough as the stone possesses a very good cleavage and is apt to split if treated too rough.

Next there is the Amazonite which though it shows no color play is quite popular because of it's fine green color which in some cases resembles Jade. This variety is known as Microcline and is of the same chemical composition as Moonstone but it is of the triclinic from whereas Orthoclase is monoclinic and it may have a slighty lower refractive index. The color of Amazonite varies from very pale almost white to a very beautiful dark blue green which is the real gem stuff. The world's most famous locality for fine gem quality Amazonite is Pikes Peak, Colorado, where crystals up to several pounds in weight have been found and of the finest green color. These crystals when in groups along with the Smoky Quartz crystals which occur in the same area are among the most beautiful and sought after specimens in the United States. There is also a good Amazonite found in Virginia though it is slightly lighter in color than the Colorado variety.

The cutting of Amazonite is just about the same as Moonstone except for the orientating which is unnecessary in Amazonite, however the same care must be taken in regard to grinding as the Amazonite has a very perfect cleavage and is easy to break, the best polish is obtained with Chrome Oxide on leather which seems to work faster than felt.

Well I guess that just about covers it, though there is much more to be learned by consulting one of the many fine books on the subject today in regard to the cutting and gemology of the mineral. So if you do not have any of the Feldspar gems in your collection write your favorite dealer and see what he has to offer, and at any rate try to add at least one of these little known but important gems to your collection, for they will add beauty and color to any cabinet.

Nuclear Processes in Geologic Settings

University Park, Pa. Apr.—A report of a conference on "Nuclear Processes in Geologic Settings" which was held at the Pennsylvania State University September 8-10, 1955, as part of the University's Centennial celebration has been published jointly by the National Academy of Sciences and the National Research Council.

Penn State representatives and hosts to the conference were Dr. J. A. Hipple, former director of the Mineral Industries Experiment Station and Dr. M. L. Keith, professor of geochemistry and director of the Mineral Conservation Section.

Twenty-nine papers are included in the report, covering recent work in the fields of isotopic abundances and methods of determining the geologic age of rocks. One of the papers, dealing with ,"Rb-Sr and K-Ca Analyses and Ages" was written by Dr. Leonard F. Herzog, of the department of geophysics and geochemistry.

Copies of the report (Publication No. 400) can be obtained by writing to the National Academy of Sciences, Washington, D. C.

Looking Back Twenty-Five Years Ago

in ROCKS AND MINERALS

JUNE 1932 ISSUE

THE STORY OF THE DUNES, by Frederick Shepherd. An intensely interesting article on the sand dunes of the Chicago, Ill., area Pp. 41-48

A TRIP TO BARRINGER HILL, by C. L. Brock. Barringer Hill was one of Texas' most famous localities but it has passed out of existance—swallowed up by the waters of the huge Buchanan Dam that was built a few years ago. Pp. 54-59.

A REMARKABLE FOSSIL DISCOVERY. H. N. McConnell, of Boulder, Colo., made a find of some unusual fossil tracks of a Cretaceous bird in a clay pit near Golden, Colo. The bird was named *Igrotornis McConnelli* in honor of Mr. McConnell Pp. 64-65.

Collector's Corner

For the special benefit of collectors who may be living in areas far removed from other collectors we have opened this feature. In this corner, a collector may have his name and address listed for the purpose that other collectors may write him in the hope that through correspondence, exchange of ideas and specimens, new friendships may be formed. Listings are free.

Paul F. Patchick,
958 Centinela Ave., Santa Monica, Calif.

Rose Wey,
12526 So. Rose Ave., Downey, Calif.

H. J. Kendrick, Ophir,
San Miguel Co., Colo.

Theo. Kirschman,
Haswell, Colo.

Mrs. James F. Donohue, 411 Main St., East Hartford, Conn.

Meade B. Norman, 1524 Mitchell Ave., Tallahassee, Fla.

Fred Nelson,
2216 Elizabeth Ave., Zion, Ill.

Steven Sturm, 521 Roosevelt Ave., Kewanee, Ill.

Victor Felger, 126 Esmond St., Fort Wayne, Ind.

Edward Rushton, 730 Bexley Road, West Lafayette, Ind.

Jimmy Henderson, (13 yrs.),
1345 W. 10th St., Bogalusa, La.

M. H. O'Brien, 2927 Vandenberg Rd., Muskegon 36, Mich.

Mrs. Marion E. Hull, 704 Gratiot Ave., Saginaw, Mich.

Lee E. Payne, Route 1 (Eagle Lake), Willmar, Minn.

Lew Powell (12 yrs.),
Route 1, Dundee, Miss.

Edwin Skidmore
253 Central Ave., Mountainside, N.J.

Leo A. Miller,
Blossvale, N.Y.

John Fahey, Jr. (15 yrs.)
38 Barclay St., Albany 9, N.Y.

Mr. & Mrs. Walter Kowal,
RD2 Goshen, N.Y.

Nancy Simons (14 yrs.)
167 Main St., Amenia, N.Y.

Charlie Bennett 210 W. Franklin St. Horseheads, N. Y.

Ernest Brill (11 yrs.)
2975 Ave. W., Brooklyn 29, N. Y.

John Wilson, 44 Van Cort. Pk. Ave., Yonkers 2, N. Y.

Bert Robinson (14 yrs.),
712 Crown St., Brooklyn 13, N. Y.

Joseph Jeski (13 yrs.), 676 Humboldt St., Brooklyn 22, N. Y.

Robert Pasca,
395 Sussex Rd.,
East Meadow, L. I., N. Y.

Harold J. Lienemann,
Box 42, Gouverneur, N. Y.

Maxine Megyesi 155 E. Main St., South Amherst, Ohio.

Eileen Philpott (16) yrs.) 2200 Wascana Ave., Lakewood 7, Ohio.

Allison Cusick, RD#1,
Unionport, Ohio.

Rev. C. B. Howells
1679 Parkwood Rd., Lakewood 7, Ohio

Tommy Kelley (11 yrs.),
528 S. 79 E. Ave., Tulsa, Okla.

James L. Winder, 1285 N. E. Stephens, Roseburg, Ore.

Theresa Farnham, R. D. 2, Cambridge Springs, Pa.

George R. Schortz, R. D. 1
Bethlehem, Pa.

Mrs. Ammon Schwartzbach,
2239 Logan St., Harrisburg, Pa.

Mrs. Tres, Lawhead, 3936 W. Ridge Rd.,
Erie, Pa.

Edward Carey (11 yrs.), 200 Atwell Ave,
Providence, R.I.

Walter Scott Gray, Jr., 417 S. Perry Ave.,
Denison, Tex.

Earl Medlin (16 yrs.),
1301 N. Oak,
Mineral Wells, Texas

Cary Coen (14 yrs.), 3762 Valley Ridge
Dallas 20, Texas.

P. M. Plimmer, Box 701, Alpine, Texas.

Karen Hufnagel (14 yrs.),
East Ryegate, Vermont

G. W. Weber, 1320 Portland Ave.,
Walla Walla, Wash.

M. W. Anthony, P. O. Box 260,
Bellingham, Wash.

Earl C. Peterson
New Lisbon, Wisc.

Mrs. Mary E. King
Star Rt., Palmer, Alaska.

Miss Carol Corns (16 yrs.), 365 Hillsdale
Ave. E., Toronto, Ont., Canada.

Ernest Windisch 1576 Desmarchais Blvd.
Montreal 20, Que., Canada.

ERNEST A. MAYNARD

(Obituary Notice)

It is my sad duty to announce that one of the charter members of the Queens Mineral Society passed away on Monday, March 4, 1957. At our meeting held on January 28th, 1957, we made the late Ernest A. Maynard an Honorary Member.

I am enclosing his obituary which appeared in our local newspaper, the Long Island Daily Press.

I, personally, feel that I have lost a friend. Mr. Maynard taught at my old Alma Mater, Jamaica High School, from 1910 to 1940 when he retired. I was student there and first became acquainted with him in 1918. After graduating, I lost track of Ernest Maynard. Imagine my surprise and pleasure when after a lapse of over 30 years, he recognized me at the 19th Annual Dinner of the Queens Mineral Society held in June, 1956.

I guess I must have been quite a rascal back in school for him to so readily pick me out.

All of us at Queens Mineral Society will miss him.

LOUIS H. ROTH
Secretary, Queens Mineral Society
114-67 - 223rd St.
Cambria Heights L.I., N.Y.

Obituary column "Long Island Daily Press" Wed. March 6, 1957

ERNEST MAYNARD

Mineralogist, 84

Masonic and religious services for Ernest A. Maynard, 84, a mineralogist and former science teacher at Jamaica High School, will be held tonight at 8 in the Fairchild Funeral Home 220-05 Hillside Ave., Queens Village.

Mr. Maynard died Monday in Jamaica Hospital after an illness of five weeks. Born in Berlin, Mass., he was graduated from Boston University in 1895. His first teaching job was in Stafford Springs, Conn.

He came to Jamaica 50 yearn ago and first taught in the city schools at Erasmus Hall High School, Brooklyn. From there he came to Jamaica High School, where he taught science more than 30 years. He retired in 1940.

He was a member of the New York Mineralogical Society and the Queens Mineral Society. He was a 50-year member of the Jamaica Masonic Lodge.

Mr. Maynard's ancestors in this country trace back to the early 18th century. His father, John Maynard, was a corporal in the 5th Massachusetts Infantry which fought at the Battle of Fredericksburg during the Civil War.

Mr. Maynard was a member of the Sons of the American Revolution, the Society of Colonial Wars and the Founders and Patriots Society. He was also a member of the First Dutch Reformed Church of Jamaica.

He lived in Jamaica 50 years. His home was at 161-41 86th Ave.

The only survivor is his wife, Martenna. Burial will take place tomorrow in South Berlin Cemetery, Mass.

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings.

East

New York Mineralogical Club, Inc.

The February meeting was held as usual at Columbia University in New York City, with a packed room due to the presence of Mr. Loring Coes of the Norton Company of Worcester, Mass., who held forth on the stimulating topic of high pressure, high temperature minerals that had been made in the research labs of the company. Garnet, quartz, epidote, and topaz ingredients were put in a steel bomb, 30 to 40 thousand atmospheres, pressure applied, the current turned on and the minerals were created. Small quantities were made under laboratory conditions and carefully studied.

During the regular business meeting, B. Adkerson, W. Cliadakis, L. Corso, F. Mecke, I. Busching, M. Seidman, J. Kurtz, were elected members. Joe Stromwasser announced that a new development in Tuxedo had removed the location at Sterling Forest from the map. Some nice sunstone was once collected here.

A motion was made by Fred Hayden and seconded by Mr. Adkins that the time for the Kunz Prize entry be extended and after some discussion it was passed.

March 20 Meeting

The club convened at 8 p.m. in room 403, Columbia University, with President Curt Segeler presiding. Dr. Kerr of Columbia University, a past president, spoke on the origin of uranium occurrences on the Colorado plateau. A great deal is found in sedimentary rock very like the sandstones of the Jersey palisades. Dr. Kerr traversed the uranium shield in the summer of 1956 and illustrated with slides the geological features of the region. Also there were slides of many of the mine locations, of which there are now approximately 600. Some of the minerals found on the shield are ferganite, avanite, carnotite, sengerite, and tyuyamiunite.

The club heard with sorrow of the passing of Mr. Ernest A. Maynard, who had been a member for 40 years, having been elected in November 14, 1917.

Dr. Kerr was appointed to replace Dr. Holmes on the Kunz prize committee.

The nominating committee to choose a slate for next year is composed of William Pfeiffer, Joe Stromwasser, Alan Green, Ted Fredericks and Dr. Gregerson.

Mr. Einar Whalen has tabulated the names of our own members after whom minerals have been named. The list which will be the subject of a paper by a committee appointed by the president follows: Kunzite, Nivenite, Englishite, Montgomeryite, Holdenite, Yedlinite, Palachite, Whitlockite, Gratacopite, Austinite, Obenite, Gahnite, Schallerite, Kempite, Mosesite and Eglestonite.

Joe Rothstein, Secy.,
255 W. 84th St.,
New York 24, N. Y.
TR 4-6338

Queens Mineral Society

Meeting called to order at 8:20 P.M. on April 22, 1957 at 85-01 118th Street, Richmond Hill, New York. There were more than 30 members present. Minutes of the previous meeting were read and accepted. A number of magazines and periodicals were displayed. The secretary then briefly read the several communications that had come to his attention. There was no report from the membership committee. The Field Trip Committee thru Barry Strauss reported that a field trip would take place on May 4, 1957 to French Creek and if possible, Phoenixville would also be included. It was suggested that the secretary contact several quarries for the purpose of getting permission to collect.

Curt Segler displayed Stolzite, Chillagite and Wulfenite. Although they came from different areas, Curt contended that all of them were one and the same mineral, namely, Wulfenite. He also told the group to be always on the lookout for cassiterite in the feldspar quarries. He displayed several specimens so that members would be able to identify cassiterite in feldspar.

It was reported that our Vice-President, Tom Ronan, had joined the National Guard and would be away for a number of months. His office was declared vacant by the President.

Allen Green was duly nominated for Vice-President and duly elected.

It was reported that the 20th Annual Dinner to be held on May 28th, 1957, at the Y.M.C.A., Jamaica, N. Y., should prove a good place for a pleasant evening of eating and fun. Vic Pribil has agreed to show color movies of Bryce and Zion Canyons after the dinner.

After a 15 minute recess given to rag-chewing, magazine-thumbing and mineral identification, the meeting was turned over to Vic

Pribil who delivered a nice talk on the Geology of Yellowstone Park and likened a geyser to a steam furnace with piping, water supply, hot fire and finally the "blow-off." As usual Vic's talk was punctuated with spice and Pribilisms! . .

After Vic's talk, Ben Johnson took charge of the color movies which showed the many pools and geysers of Yellowstone Park. These movies are the work of Vic and as they were shown, he made numerous comments with the result that we not only had fun but learned a great deal about the Geology of Yellowstone Park.

At the conclusion, Vic was not only applauded, but personally congratulated by many of the members.

The program ended at 10:50 P.M.

Louis H. Roth, Secretary
114-67 223rd Street
Cambria Heights, N. Y.
LA 5-1380

Westchester Mineral and Gem Society

Polished and rough gems, worth several thousands dollars, were on display at the symposium on gems held by the Westchester Mineral and Gem Society at its regular meeting in the County Center on Thursday, Feb. 21st. David M. Seaman, of the American Museum of Natural History in New York City and president of the society, conducted the symposium. Nearly 100 members and guests were in attendance.

In response to inquiries about qualifications for membership in the society, Mr. Seaman stated that anyone who in interested in minerals or gems may become a member. Meetings are held on the 3rd Thursday of the month at 8 p.m. in the County Center, White Plains, N. Y.

Fulton County Mineral Club

Through the efforts of R&M we have started a mineral club in this area. It is known as the Fulton County Mineral Club. The way it started is that one subscriber saw my name in R&M, he contacted me, we got together, decided a club was needed here and we made a public announcement in the papers, plus the assistance rendered us by two Radio Stations—Station WENT in Gloversville and Station WCSS in Amsterdam. Thus to the first response, 15 people showed up at the first meeting and we have been growing steadily during the past 2 months.

At the first meeting I took charge and gave a talk on the Herkimer County "diamonds." At the second meeting, Mr. Arthur Ginter assisted me as co-chairman. At the third meeting we elected officers as follows: Mr. A. Palmer, president (he is an instructor in geology and mineralogy in Gloversville High School); Mr. A. Ginter, vice president; Miss K. Streeter, secretary and treasurer; Lewis F. Valachovic, field trip and program chairman.

Meetings are held every other Monday night at 7:30. The club has met in both cities but at present has established itself in the Greek Church Hall, corner of Washington and Division Sts., Gloversville, N. Y.

We welcome all to attend our meetings, either as guests or members.

Lewis F. Valachovic,
110 Burton St.,
Johnstown, N. Y.

Mineral Section of the Rochester Academy of Science, (Rochester, N. Y.)

The Mineral Section had its 20th anniversary last month. On January 27, 1937, the Mineral Section of the Academy was organized. Previously, there had been a Geological Section of the Academy, which was in existance as early as 1884. It is quite probable that our Mineral Section, through its linkage with the previous Geological Section, can lay claim to being the oldest Earth Science Club in existance. The New York Mineralogical Club was founded in 1886.

A high point in the year's activities was a month-long exhibit of personal collections of members of minerals, rocks, fossils, gems and books, in the museum library. There were eighteen participating members and it was a lively exercise in the principles of exhibiting.

E. Fairbanks, Secy.,
435 E. Henrietta Rd.,
Rochester 20, N. Y.

Connecticut Valley Mineral Club

Mr. Raymond Schortmann of Schortmann's Minerals, Easthampton, Mass., described his and his brother's experiences in collecting and dealing in fine minerals in a talk entitled "Twenty Years Plus in Dealing With Minerals." This was at the April 3 meeting held at the University of Massachusetts in Amherst.

With the talk he showed color slides of superlative specimens which they have handled and many of which are still in their personal collections. The Schortmanns are fine photographers as well as outstanding collectors, and the slides brought forth many an envious groan from their fellow club members.

Ray first became interested in minerals in the early thirties when he saw a large chunk of prochlorite studded with pyrite crystals, tied to the running board of an auto which stopped for gas in Easthampton. At first his brother Al derided this new-found hobby, predicting that Ray would be chasing butterflies next. But soon both brothers were ardent collectors. Readers of ROCKS AND MINERALS will recognize that they are pre-eminent in the field today, filling orders for the great

museums and universities of the world, as well as supplying fine specimens for the amateur collector.

Crystallized gold, wulfenite, rhodochrosite, malachite, amethyst, and many other rare and beautiful specimens were represented on the slides.

At the March meeting, held at the Museum of Natural History in Springfield, Mr. William Ducharme of Old Lyme, Conn., showed color slides and described his travels through the American and Canadian Rockies. An inveterate traveler of backroads, Mr. Ducharme got into many out of the way places and produced some of the finest pictures seen by the club.

New officers elected at the March meeting are: Dr. B. M. Shaub, president; Dr. Warren Johansson, first vice-president; Dr. A. E. Andersen, second vice-president; Mr. James W. Burke, secretary; Mr. Raymond Robert, treasurer; Mr. Leo D. Otis, curator and librarian.

James W. Burke, Secy.,
No. Amherst, Mass.

Keene Mineral Club

At our November meeting we had the film, "In the Beginning." The secretary brought a frame of fossils to exhibit, among the fossils were two she had found in 1937 on the north rim of the Grand Canyon.

The December meeting was held again at the K.T.C. The program was a paper written on "Quartz Family Minerals" by Mr. Franklin Mack and read by Mr. William Mitchell. Mr. Julian Wetherbee explained the hardness scale and minerals were passed around. The secretary had a frame of the quartz minerals on exhibit and also read an article on "Agate Thunder Eggs." The meeting finished with an auction.

In January the meeting was held at the home of the Wetherbees. The making of a cabochon was demonstrated. There was also a guessing game on crystal forms.

Our annual club dinner was held February 2, at Donahue's. Afterwards Mr. A. R. Davis showed slides of their recent trip, taking in England, Scotland, Holland, Switzerland, France, Italy, Egypt, Lebanon and Jordon.

The March meeting was a film by the International Nickel Co. and a contest on copper and iron materials.

Mrs. Julian Wetherbee
22 Wheelock Street
Keene, N. H.

Pine Tree Gem & Mineral Asso.

A meeting of the Pine Tree Gem and Mineral Association at the home of Clyde and Freda Thomas on the evening of March 2nd, marked the end of our first year as a club.

The Year Book was discussed and will be ready for sale before the month ends. Election of officers resulted in Elsie Moore of Frye, Maine, being chosen our new president; Regine LeBlanc of Roxbury, Maine, is our vice-president and librarian; Freda Thomas of Roxbury, secretary and treasurer; Stella Donahue of West Peru, Maine, is publicity chairman; Joe White, Leo LeClerc and Dean Macrellis of Byron, Maine, are the club's program committee.

A review of our first year followed and is contained in the enclosed poem.

While four of the young ladies, Regine LeBlanc, Louise Carrier, Louise Touchette and Gay Thomas served two birthday cakes, cup cakes and punch they had made, our treasurer took a colored flash picture of the group around the table.

A display of mineral items plus excellent crystal specimens from the Pugh Quarry in Ohio, recently received for Gay Thomases collection were examined and discussed.

Freda Thomas, Secy.
Roxbury, Maine.

A Pine Tree Rockhound Reminisces
by FREDA THOMAS

Our twelfth month as a rock club
Finds us looking back a year
Reminiscing, reviewing occasions
That kept our purpose clear.

The colorful ore and crystal forms
In Ted Davis' collection last Spring—
Explanations, then organization
And plans that such meetings bring—

The faceted gems and beautiful cabs
Helen Landers displayed and discussed—
Mr. Toothaker's polished addition
Are a genuine rockhound's must.

Wally Thomases excellent minerals,
The specimens shown by Joe White,
Irene Noyes' shell exhibit,
Gift ores at our club's Christmas night.

Slides of the Rangeley area
With Mrs. Brown to explain;
Field trips to river and mountain
For pegmatite treasures of Maine.

Venetia's and Amy's visit
With crystals from Canada's shore,
Plus illustrations in color
Of places they love to explore.

Our Halloween Hunt for minerals
That fluoresce, at Swift River Camp,
With each taking home the sample
Picked up with the funny black lamp.

Door prizes won by the youngsters,
The movies that took us to France,
To England, Italy and Belgium
With postmaster, Blair LeBlanc.

Specimens found on our Field Trips
Or traded for all add up
To a prosperous year and a happy one
For each rockhound and young rock pup.

South

Miami Mineralogical & Lapidary Guild

The Miami Mineralogical and Lapidary Guild will offer a free "Cab" course as prize in the Junior Museum's Science Fair. This will be awarded to the best entry in the field of geology. For further information contact the society at 1737 N. Bayshore Drive, Miami, Florida.

Georgia Mineral Society

The Georgia Mineral Society began its fiscal year in November with Mrs. Nelson Severinghaus, first woman president, presiding. The program featured Prof. Romeo Martin, of the Emory University geology staff, with a talk on "The Geologic History of Georgia." The December get-to-gether was in the form of a gem-fest with a dazzling display of gemstones and hand-wrought jewelry.

In January, Dr. Vernon Hurst, of the State Department of Mines, explained "Mineral Identification by Modern Methods." In February, "Marble at Your Doorstep" was described by Janie Morris. This talk was the outcome of an extensive survey and identification of marbles in numerous public buildings in Atlanta. In March, Capt. Garland Peyton, of the State Department of Mines, discussed "Uranium in Georgia," and showed the film, "The Petrified River, the Story of Uranium."

Regular monthly field trips have enlivened the activities of the Georgia Mineral Society. In October, the group hunted serpentine, talc, and hydroxyl apatite at the Verde Antique Quarries near Holly Springs. In November, staurolite and gold were collected near Blue Ridge. Arabia Mountain, near Lithonia, offered possibilities of collecting 18 or 20 different minerals in December, including fluorite, epidote, garnet, feldspar, and hyalite. A special field trip for junior members was arranged for January. Adults were permitted only upon invitation of a junior member. The goal was Stone Mountain, near Atlanta, and paragonite, feldspar, and tourmaline were among the minerals found.

A wealth of marble specimens featured the February field trip to the Georgia Marble Company at Tate.

Attendance at the monthly meetingy and field trips has been particularly pleasing to the program and field trip chairmen who arranged for the activities.

Erna L. Mason Cor. secy.,
Georgia Mineral Society
Dept. of Public Health
Atlanta 3, Ga.

Rollin' Rock Club

Thought you would appreciate a copy of the Rollin' Rock Club Newsletter (9 pages full of interesting items). As described in this bulletin, the R.R.C. is a club for "orphan" rockhounds who have no local club to tie to. Would appreciate any publicity you may extend us in your fine magazine.

Since our club started we have grown from 7 planners, May 1955, to 33 charter members, organized December 1955, now to our grown-up membership of more than 70. They are scattered in 27 states, 2 in Alaska, and 2 in foreign countries.

Ken Kyte
P.O. Box 161
Covington, La.

Mid-West

St. Louis Mineral & Gem Society

Midwest minerals and gem materials are now being shown in St. Louis, Missouri colleges, high schools, public libraries, industrial plants and other institutions in a series of traveling educational exhibts which have been arranged by the St. Louis Mineral and Gem Society under the direction of Charles Buescher, exhibit chairman.

Contributed by the 135 members of the society, approximately 100 items are on display which include 10 basic minerals of the Midwest and range from the well-known Washington County barite to the colorful Arkansas quartz. The exhibits are to be rotated among various institutions and major industrial plants, Buescher says, and will remain in each location from 3 weeks to one month.

The principal purpose of the exhibits, according to Buescher, is to acquaint the public with the variety and scope of minerals and gem material which may be found in the Midwest and to give some information as to their commercial uses. Gem Materials, both finished and in the rough, are included in the exhibits.

THE CAVES OF MISSOURI were discussed by Frank Dahlgren and John Cantwell, St. Louis amateur speleologists, before the St. Louis Mineral and Gem Society at its regular meeting, April 5, 1957, 7:30 p.m., in the St. Louis County Library Auditorium, 6814 Natural Bridge Road, St. Louis, Missouri. The lecture was illustrated with three-dimensional colored slides taken in the caves.

Mr. Dahlgren, and his assistant, John Cantwell, explore and map caves during their spare time for the State Geology Division at Rolla, Missuri.

Charles C. Crosswhite
Publicity Chairman
8913 White Avenue
St. Louis 17, Missouri

Des Moines Lapidary Society

A group of approximately one hundred people heard Dean Vicroy of Montezuma, Ia., speak on Crystals and Minerals at our March Social meeting. A very interesting and educational talk. The program was arranged by our Vice President, Dan Finch. Hazel Kinny talked on the beauty of jewelry made from crystals taken from Geodes and gave a demonstration, making a necklace and a pair of earrings which was given to the lucky winner in a chance drawing. Mrs. Inez Finch told an original story concerning our Iowa Geodes which was much appreciated by our younger attending members who are our Rockhounds of the future.

With the opening of Spring our President is making tentative plans for a field trip for our members to hunt for coral and the lovely Geodes for which Iowa is famous. The club is also looking forward to the ownership of a large Slab Saw for the benefit of the members—the location of which has not been fully established at present. We enjoy reading of the activities of other clubs.

Mrs. Roy J. Bennett,
Publicity,
924 Loomis Ave.
Des Moines 15, Iowa

Hancock Geological Society

The Hancock Geological Society meets the 2nd and 4th Tuesdays of every month at 8 p.m. at the club rooms in the home of Lloyd Decker, 3½ miles east of Findlay on State Rt. 12. Visitors welcome at any meeting or at anytime as we have a large display of both rocks and minerals. We have a membership of 24 and expect to take in 8 new members soon. One a former geologist and retired senator. We are now planning our summer field trips as well as a rummage sale for the club. The money will be used to fill our library with good mineral books and other supplies for the club.

Mrs. Lloyd Decker
Rt. 2
Findlay, Ohio

Akron Society of Ohio Prospectors

The objectives of this society shall be to encourage those interested in the search of minerals, economics and industrial raw materials, such as coal, petroleum, gravel, limestone, etc., and to aid in the discovery of new localities; to patricipate in the development and utilization of these resources in Ohio.

We are the only society of prospectors in Ohio.

P. M. Arnold, President
1309 Wilbur Ave.
Akron 6, Ohio

Arizona

The Tucson Gem and Mineral Society, Tucson, Arizona

"Each show a little better than the one before," might well be a short way to express our efforts each year to give the guests who come to our annual Gem and Mineral Shows a real good time.

This year our show, held March 9th and 10th, was more than a little better, we are sure, and we hope we succeeded in having something of interest for everyone: the "rockhound," the lapidary, children and adults, specialist and amateur.

One special exhibit that amazed everyone, and especially those who have believed that "all rocks are good for is throwing", was the "Dinner of Rocks" belonging to Mrs. Erna Clark. Here, on tables set with real linen and china, were foods of every kind—a full banquet of food—all of rock or mineral. There was even the after-dinner cigar.

Since all are susceptible to the lure of gold there was great interest in Mr. Ross Cook's collection of native gold and the items of the gold rush days. There was rare crystallized gold and specimens from many famous old mines as well as from working mines all over the world.

A working water-wheel, cabin and desert scene made of cut and polished stones, with miniature animals and a real tiny tree, was like a bit of fairyland. Children loved it—adults lingered just as long.

There were many other fine non-competitive exhibits of gems, lapidary work, shells, etc., and extra fine competitive exhibits in many classes. For the first time we had out-of-town competition, which is a step forward, and our junior exhibitors showed real improvement over last year's collections.

Mr. and Mrs. Guilford Dudley were co-chairmen for the show, assisted by all of the members of the Society plus many other people. The Parents Group of the Helen Keeling school served excellent food, including a constant supply of home-made cakes and pies, as they have at each of our shows. Perhaps food doesn't "make" the show, but it really helps!

And the Dealers! We had many of the same cheerful faces back, and many new ones, all with their nicest items out to tempt us. How much we enjoy looking, buying, and learning by seeing!

A Rock Show is a lot of work, but also such a lot of fun.

Mrs. Irene Barber
Rt. 9, Box 907
Tucson, Arizona

Mineralogical Society of Arizona

At the March 15 meeting of the Mineralogical Society of Arizona, Dr. H. H. Nininger, world famous authority on meteorites, explained the importance today in science of the study of meteoritics. "Many features of earth's surface may be due to large meteorites, rather than forces inside the earth," he said. He described the great pressure of large meteorites as they strike the earth, and explained the possibility of pressure altering minerals to new forms. He cited quartz changed by pressure in the laboratory into coesite, and said they are now searching craters for coesite and other possible new minerals.

A million meteors burn out every hour in the upper atmosphere. No one knows how large these are that burn up within 30 miles of earth. Some burst 18 or 20 miles from earth and fragments land. Most of these are in museums.

Dr. Nininger has had numerous experiences with pilots who "dodged meteorites", and said most of the meteorites were 50 to 60 miles away from the planes. "If you see it burning when it hits the ground," he said, "it probably fell beyond the horizon."

Another good reason for studying meteorites, he said, is that they are our only contact at present with outer space. New and curious discoveries are being made at various craters of the world. They have opened up a new field of research.

At the site of the great fall in Russia in 1908 they have found no fragments, but numerous craters. At the site of the fall in Siberia in 1947 more work has been done than at any other crater in the world.

Arizona has finest accessible crater on earth, says Nininger. It should be owned and protected by the government for continued research. It has been damaged by silica mining, polluted by cinders hauled in for road work, and from the mineral mart there now one may eventually pick up rocks from Africa on its rim—all of which is most confusing to the task of probing the crater's own mysteries. Dr. Nininger's latest book, "Arizona's Meteorite crater", contains results of research work done there to date.

A fine travelog on Africa, illustrated with color slides, was also given by Mr. and Mrs. L. L. Burros. Jimmy Nelson gave a five minute talk on three minerals. Jimmy is one of our top juniors and on his way to becoming a top TV announcer. Door prizes of Michigan copper were donated by John Tobola. The March field trip was to vicinity of the Thompson Arboretum for hyalite, honey opal and desert roses. There were 17 cars in the caravan.

Ida Smith, Cor. Secy.,
2238 East McDowell,
Phoenix, Ariz.

Phoenix Gem and Mineral Show Held March 1, 2, 3, 1957

Under the fine management of Earl Campbell and his efficient committees, Phoenix Gem and Mineral Show drew an attendance again this year of around 5000.

Gov. Ernest McFarland and Miss Lynn Freyse (Miss Arizona of 1957), took part in the opening ceremonies, at which Miss Freyse was crowned queen of the show.

Governor McFarland made several thoughtful trips around the displays and said ,"I am tremendously impressed with the beauty of the exhibits by these hobbyists!"

Miss Freyse and her mother also made several trips around. "I have never seen anything like this before in my life!" exclaimed Miss Arizona. She held a specimen in her hand. "A little boy, Dwight Campbell (Earl's little boy) bought it for me," she said.

Spectacular copper crystals, and the largest unbroken black opal in the world, from Nevada, were displayed by the Hodsons of Scottsdale. The opal is from their mine, and is a cast after wood. This beautiful gem drew a large crowd of spectators.

Original designs in silver jewelry and gem stones were more intriguing than ever this year. Many of those who studied the displays went away with plans to learn silversmithing and gem cutting. Among the unusual designs were natural stones in silver by Peggy Graves and Bertha Wunderlich of Scottsdale; silver leaves and snowflakes by Martha Greene; large cabs of "flowered" malachite, chrysocolla and moss agate, Martin Koning. and the Nininger's new meteorite and stardust jewelry from out of space.

Rosenszweig's display included cyclotron-colored diamonds worth $20,000; largest precious topaz in the world, 11,702 cts; Burma ruby crystals, 342 cts; Australian black opal, 5850 cts; rough aquamarine, $20,000; rough emerald, smoky topaz, and minerals. Their display alone represented around $300,000.

Huge golden calcite crystals from the tri-state were displayed by Monnie and Ed. Speck.

One of the most spectacular exhibits was a colorful variety of large crystals from the collection of Harry and Irene Hill. Dianne Mulkey displayed two flower groups, the leaves of which were carved from jade, and the flowers from jade, agate and rose quartz. These unusual pieces were made in China. Their age is unknown.

Ross Cook's collecton of gold nuggets, valued at $7,000, contained specimens from all over the world, and a necklace of nuggets with gold, hand-made chain. Each nugget in the collection has an early-day story that dates back to the 1800's. One was from Dahlonega, Georgia, where first gold coins in the U.S. were minted. There was gold in chrysocolla,

petrified wood, jade, rodochrosite, purple agate, and numerous other kinds of rock. Mrs. Cook helps with the gold collecting hobby. She says, "I believe a hobby is essential when a husband devotes most of his time to earning the living."

Mr. and Mrs. Phil Reasoner displayed a menagerie of quartz crystal animals—none of them cut, but made of whole crystals and broken pieces. The identity of each little animal was clever and unmistakable.

Pat Hampton used a setting of small, prehistoric animals to describe "The Young Earth", and her fossil collection to describe "The Present Earth."

Pearl-handled pistols are old stuff today. In Lester C. Bartlett's exhibit was a handsome pair of silver-handled pistols.

A crew of armed deputy sheriffs was on continuous duty. One, Ike Bentley, packed a turquoise-studded pistol. The total value of the exhibits was estimated to be around three quarters of a million dollars, hence the armed guards.

A silver and ironwood tea set and chess set were displayed by the Bonnells of Scottsdale. The silver work was done by Kenneth Begay, Navajo silversmith.

In demonstrations, supervised by Perry Stufflebeam and his teenage son, Richard, two saws—16 inch and 24 inch—were in continuous operation. Also polishing equipment. Joe Harris worked his home-made tumbling machine. Harvey Morgan demonstrated carving. Pavey L. Stanlev. silversmithing. Bob Orr and his eleven-year-old daughter, Barbara, demonstrated faceting. And the Richards brothers and two assistants, Sandra Blazius, age 15, and Bobby Dawson, age 12, demonstrated gold panning.

Experts from the three sponsoring societies identified minerals. Their slogan: "Ask anything. The sky's the limit"!

Floyd Getsinger and family displayed jewelry, thumbnails, micromounts, camera, and continuous showing of enlarged mm's on the screen. Agnes Holst displayed groups of micromounts under hand magnifiers cleverly arranged on wire stands. A picture of a fisherman, exquisitely inlaid with jade, lapis and other gem stones was displayed by Ruth Euler. The picture was made by an Italian fisherman and took 7 years to make. It is valued at $1500.

Continuous showing of four picture shows drew a large crowd: "In The Beginning", courtesy Mobile Petroleum Co.; "Natural Resources of Arizona", loaned by Arizona Bureau of Mines; "The Story of Faceting", by M. D. R. Mfg. Co., Inc.; and "Rock Art", courtesy California Mineral Society.

There were three grade school, and more than 50 junior exhibits.

AiResearch helped with lapidary equipment, printing, loaned cameras, black lamps, tarp, and moral support.

Milford J. Benham, professor of mineralogy, Phoenix College, supervised the displays.

The show was sponsored by AiResearch Lapidary Club, Maricopa Lapidary Society, and Mineralogical Society of Arizona.

Ida Smith,
For the publicity committee,
Phoenix Gem and Mineral Show,
2238 East McDowell,
Phoenix, Ariz.

American Federation of Mineralogical Societies

A Message from the President, "Leadership"

America has always been a nation of leaders and our organization has certainly been blessed with its share of a high order of leadership.

Today we enjoy the results of the founding fathers of the A.F.M.S. who were sturdy individuals with broad vision to look into the future.

During the month of June the delegates from the six Regional Federations will converge on Denver, Colorado. They will choose the men and women who will guide our organization through the coming year. They are the leaders who a year ago pinned their faith on our continued progress.

In ten short years we have grown to a man-size group with broad powers and an opportunity to provide a program that will be of great benefit to the coming generation.

Much of the success of an organization depends on the character of leadership and initiative shown by the president and his official family. A great responsibility is his and that is growing every year on account of the increased importance of four local societies and on up through the Regional Federations to the National body. No organization has a legitimate excuse for their existence unless they perform some kind of service to society or scientific research. Let us hope that in all instances the officers of the A.F.M.S. will keep in mind the importance of the duties entrusted to them and be able to record growth and progress as our history is written.

Harry L. Woodruff, President,
3003 M Street, N.W.,
Washington, D. C.

Ilmenite Sands To Be Mined In New Jersey

TRENTON, April 11, 1957 — No drastic permanent changes in the landscape are likely as a result of ilmenite mining in the pine barrens of central South Jersey. This reassurance was given landowners and naturalists today by Joseph E. McLean, Commissioner of the New Jersey Department of Conservation and Economic Development.

Commissioner McLean says the State is receiving a steady flow of inquiries about the new discovery and its effect on farmers, cranberry bog operators and others in the Ocean-Burlington county areas where extensive deposits of ilmenite have been found.

Once regarded as an undesirable impurity in iron ore, ilmenite, defined as an iron titanate, is now the most important source of raw material from which the new lightweight temperature-resistant metalic titanium can be produced.

The economic possibilities of the find, made by geologists in the Conservation Department, have been substantiated by private concerns. The prospecting already done has shown that thousands of acres in some 250 square miles of New Jersey's pine barrens contain ilmenite in commercial mineable amounts. At least a half-dozen large tracts are being sampled now by firms presently engaged in the manufacture of titanium pigment, or which are considering such manufacture or the production of metallic titanium. It is known that some tracts have already been optioned or acquired and it seems likely that within a year there will be definite plans for active mining operations.

"There is enough undeveloped land there," Commissioner McLean explained, "so that mining can be carried out without disturbing farm acreages and cranberry bogs already in cultivation."

"The dredging operation itself need not cause more than temporary changes," he added. "While dredging is necessary to extract the minerals from the sand, about 97 per cent of the sand dug is returned to the excavation. If preferred, the sand could be deposited instead so as to create lakes or hills or to level hollows.

"Because of the high initial cost of a dredge," Commissioner McLean continued, "it is probable that a reputable and experienced industrial concern would require a tract of 1000 acres or more, proved to have the desired percentages of ilmenite, before the mining project would begin."

The original discovery of ilmenite in New Jersey was made in a pit just west of Route 539 and four miles east-southeast of New Egypt in western Ocean County. Frank J. Markewicz, geologist in the Conservation Department's Bureau of Geology and Topography, made the initial find and identification.

Meredith E. Johnson, State Geologist and chief of the Bureau of Geology and Topography, says several firms are now actively exploring specific areas while the Bureau continues its efforts to determine the over-all extent of the mineral in New Jersey.

New Jersey's ilmenite placers also contain leucoxene, an altered ilmenite; zircon; the pure titanium dioxide called rutile; and *small* amounts of the thorium-bearing mineral, monazite. All of these minerals can be extracted from the dredged Jersey sands, Mr. Johnson explains. The material brought up by the dredge is passed over screens and other devices to extract the desired minerals. The bulk of the sand is carried by conveyors and dumped behind the dredge, so that the land can be restored to its former contours or to more desirable ones.

Special Index Map of New Jersey

TRENTON, March 21, — A special map index of New Jersey has just been printed and is available for those who want to purchase copies, according to Joseph E. McLean, Commissioner of the New Jersey Department of Conservation and Economic Development.

Commissioner McLean said the index was developed by the Department's Bureau of Geology in cooperation with New Jersey Civil Defense authorities and the New Jersey State Police. It has been designed for their use in operations problems where it is necessary to determine quickly exactly what map coverage is available for any part of the State.

This new map index is based on a revised edition of the County and Municipality map of the State Atlas Series. It shows at a glance the number and area covered by each of the seventeen State Topographic maps. In addition it indicates the smaller areas covered by the more than 200 federal survey maps.

Besides affording a quick answer to which maps are needed for coverage of any particular part of the State, the index eliminates the need to refer to two different index maps, and, because of the detail shown on the base map, speeds the identification of the proper map to use when an incident, such as an airplane crash or a bad fire, has occurred in a very small area.

Because the index map is 27 x 48 inches in size its use is not recommended to those who only occassionally refer to either of the two topographic map series.

The special index map is available at $1.00 per copy from the Bureau of Geology and Topography, 520 East State Street, Trenton 25, New Jersey

WITH OUR ADVERTISERS

Conducted by James N. Bourne
% Rocks and Minerals, Box 29
Peekskill, N. Y.
Advertisers are cordially invited to submit News Items to this Department.

John Patrick, prop., of The Dogsled, Idaho Springs, Colo., has sent us a magnificent specimen of brassy-yellow xled pyrite on which are sprinkled tiny lead-gray galena xls and tiny colorless rock xls. The pyrite consists of large striated pyritohedron xls, comes from Dolores County, Colo., and is 3½ x 4 inches and weighs 2¼ lbs.

NOTE: We thank Mr. Patrick for this fine specimen and urge readers to note his ad in the display section with this issue and you also can obtain a specimen like above for a reasonable price and one that you'll be proud to display.

Louis H. Roth, owner of Radiant Violet Products, Box 5, Cambria Heights 11, N. Y., has informed us that beginning with this issue they will increase their advertising space in R&M from now on, which speaks well of R&M. They would like us to pass on to readers a little information re: to their Radiant Model SW-1 short wave ultra violet lamp now on the market for $27.50.

His recent letter reads as follows:

"For general laboratory research, mineral prospecting and collecting. Uses highly polished and precision ground filter of superior quality. Purplish cast so minimized that it defies detection.

"We feature many other lamps of both long and short wave and invite comparison of any of our items as to quality, price, economy of operation, and performance.

"We sincerely and firmly believe that we have produced the finest custom built ultra violet lamps at the lowest prices in the United States. Our units will surprise and please you."

From Donald Parser of A. G. Parser, Inc., 54 West 46th St., New York 36, N. Y., we received the following item he wishes passed on to readers of R&M:

"It may interest you and your readers to know that we received a large shipment of fine Midnight blue Aquamarine and light green-gray Beryl especially suited for making star or eye cabochons. This material is extremely rare inasmuch as nature does not produce it and it is only found in the core of some larger stones accidently found with a chatoyancy.

"Another interesting thing is that we received a very large shipment of finest Amethyst in richest purple color from Brazil for faceting. These goods are available from a very small amount of money upwards. This Amethyst we have in all sizes to cut 3 mm. up to 30 mm.

"We also have lovely rutillated Quartz as well as Morganites and bi-color Tourmalines. These stones we have for faceting as well as cabochons."

From George A. Bruce, Pres., International Import Company, 604 Peachtree St., N. E., Atlanta 8, Ga., we are in receipt of their 1957 price list booklet. Hundreds of gems, jewelry, and semi-precious stones are listed. Item below re: to Fine Jewelry.

"Many pieces in gold or platinum set with diamonds, etc. Prices on request.

"Artist originals: Rings, Pendants, Earrings, etc. The workmanship on these pieces is unbelievably beautiful . . . We will mount your stone or ours in any of these on a approval basis, money back guarantee. They are exquisite.

"Conventional mountings available in 10K, 14K, and 18K, yellow or white gold and platinum at lowest prices. Inquire."

Note: Some few weeks ago we were in receipt of some 3 very fine gems from International Import Co., and were amazed at the very fine quality and workmanship involved. We have since returned the gems with the thought in mind of passing on to our readers the fact that they may acquire similar material at reasonable prices from the above company and feel very satisfied from their purchase.

Leslie V. Dean, owner of Dad's Rock Shop, P.O. Box 7, Twin Falls, Idaho, who has been advertising with us the past few issues wishes to be introduced to our readers with the following item:

"Our shop is a family venture and is located at the corner of Falls Ave., west, and Orchalera Drive in Twin Falls. It is owned by Leslie V. Dean and carries supplies, mountings, equipment, and gem materials for local sale. Thus far we have attempted mail-order sales only of rough and slabbed gem materials.

"We sincerely wish to be of service to rockhounds everywhere and will be pleased to supply information and answer all correspondence freely in so far as we can do so. Visitors are always welcome whether just looking or buying! There are numerous collecting

sites in Southern Idaho and Northern Nevada to which we can and will direct visitors."

Note: from above item we note Mr. Dean's anxiety to be of service to rockhounds. Look up his ad with this issue in the display section. He'll be pleased to receive your order or inquiry.

We are in receipt of a price list on fine minerals from Don Ward Minerals, Box 7703, Denver 15, Colo., advertising in R&M via the classified section. An item from Don Ward reads:

"This is my first list of fine minerals which I have been many years collecting. Included here are only a part of my stock as many are stored and I haven't been able to get them processed. Additional lists will be sent as they are ready.

"All sales are on an approval basis. Return any not meeting your expectations, within 10 days. Please include payment and postage with order. I will be happy to answer any special request. All sizes approximate; prices are according to quality. Exact location given (if known) with each specimen.

"Allophane—New Mexico, Anglesite—New Mexico, Celestite—Brown County, Texas, Linarite—New Mexico, Metahewettite—a rare mineral, S. Dakota, Smithsonite, New Mexico, and Uranocircite—S. Dakota."

Note: Inquire Don Ward's Minerals, Box 7703, Denver 15, Colo., for additional information as to above minerals and others in stock. He'll be pleased to hear from you.

Hobby Haven, 2031 Lincoln Ave., Evansville, 14, Ind., advertising in our classified section invite inquiries on any items you need to tool up your Lapidary Shop. They are offering cast aluminum flanges and plans for using same for the home craftsman.

"A Do-it-yourself idea that will save you money, improve the quality of your work and give you a lot of pleasure in the process.

"These simple plans are intended only as a guide to your thinking, as the resourceful craftsman will think of scores of ways in which these sturdy accurate flanges will help him to complete important projects. Look to Hobby Haven for the 'Hard-to-get' items for your shop."

We wish to remind our readers that Burminco, 128 S. Encinitas Ave., Monrovia, Calif., has ready for issue two big new catalogs.

"Send 20c in coin or stamps for each of the catalogs today. Your 20c will be automatically refunded as soon as you have ordered at least $4.00 worth of materials from the catalogs.

"Catalog No. 1 lists about 300 different minerals for advanced collectors, beginning collectors, schools and institutions.

"Catalog No. 2 lists jewelry mountings, findings, and lapidary supplies.

"Many tons of materials are in stock toas mentioned above. supply orders for the large assortment of minerals you will find in the catalog. Adequate stocks are maintained to supply anticipated normal demand. It may be necessary to substitute localities now and then, but we are sure that we shall be able to supply most of the minerals listed herein at any time."

Note: The 2 catalogs mentioned above are complete and neatly compiled for your convenience in forwarding your order to BURMINCO.

We again are in receipt of a Fine Mineral Collector's list from Scott J. Williams of 2346 South Scottsdale Rd., Scottsdale, Ariz. Many fine specimens from this country and abroad are listed at reasonable prices. This price list arrived too late to be noted in our March-April issue and you can write Mr. Williams in regards to his Dealer's Wholesale list, isued in Spring of 1957.

Harvey R. Shull, 1516 So. Market, Oskaloosa, Iowa, is running quite a few ads with us this issue as per the classified section and we urge our readers to take note of them for some excellent buys. Below are some of the specials he features:

"Iowa Geodes containing sparkling quartz crystals, many with other mineral inclusions—Genuine Brazilian rock crystals carved into two to four inch pagodas with bells for display, cabinet or museum—Arkansas rock crystals from tiny size up to 10 inches in diameter and two feet in length—Arizona and New Mexico amethyst—and dozens of brilliant fluorescing minerals that will dazzle and glow in all their splendor with the new blacklight bulb I sell for $2.85 that screws into regular lamp socket."

Note: Be among the first in contacting Mr. Shull for some truly good buys that will enhance your collection.

Below is an item of interest to touring rockhounds received from Anthony Thurston (town of Boylston) Mass.

"The Thurstons of Morningdale (town of Boylston), Mass., have moved their stock of minerals into their new shop attached to their home at 94 Nicholas Ave. Now you can see all of our fine Illinois fluorites, barites, and calcites on open, well-lighted shelves. Beginning in June, and running through July, we especially invite touring rockhounds (with their families) to visit us and talk, swap, look, or buy just as you please. We are open daily. but the best hours will be from 3 to 8 p.m. We also have in our stock, fossils, marine specimens, and Indian relics. Do come and see us . . . Anthony Thurston."

Note: Well readers, there's your invitation. Make the Thurston's of Morningdale one of your 'stops' this summer on passing through Massachusetts for some really fine specimens

FOSSIL DEPARTMENT

Conducted by Howard V. Hamilton
1340 Crandall Avenue
Salt Lake City 6, Utah

A VISIT TO FOSSIL, WYOMING

By MRS. RODNEY A. STONE
557 Sixth Ave., Apt. A, Salt Lake City, Utah

Browsing in a book store not long ago, I chanced upon an August, 1934, issue of the National Geographic Magazine, which contained the article "'Compleat Angler' fishes for Fossils" by Imogene Powell. Glancing through the article made me chuckle, as it so completely described my husband's and my experiences at the Fossil Fish beds at Fossil, Wyoming. We would like to share our unforgettable visit to this locality with the readers of Rocks and Minerals magazine.

Across the highway from the railroad stop called Fossil, in Wyoming, are huge cliffs of light grey and yellowish shale covered by talus slides down to the sagebrush bordered dirt road that winds up about a mile or so from Highway 30N. Geologists have labeled this strata the Green River shale, and say it represents deposits in what was probably an inland lake in the Eocene epoch, some 55 million years ago.

The deposits have escaped destructive land disturbances, and erosion has made easily accessible to all collectors one of the richest fossil areas in the United States. Some of the carbonized fish found here have living relatives only in other parts of the world.

After an exciting drive from Salt Lake City, we pitched our tent and camped overnight at the fossil beds so we could get an early start searching for the "treasures" of this mountain. These strata are as jealous of giving up their fish as deep pools in the present day rivers of the Rockies, but the "fishing" is every bit as good. You may net, as we did, a piece of palm leaf with three insects exposed beneath it, five or six nice specimens of fish from three to eight inches long, coprolites, fish scales, and several other winged insects. Other collectors at other times have found large pickerel, bass, gar pike, and even a thirteen foot long ancient crocodile.

To "catch" these fine specimens, you must make a long, sharp climb up barren rocks, sliding on heaps of oil shale, and then split open with chisel and hammer the greystone squares, often six or eight inches thick. Usually the most likely looking rocks yield nothing, then just as you get discouraged, up pops a prehistoric fish and you keep on searching despite an aching back.

As the sun begins to set, sending long purple shadows over the shale slides, a cool breeze whips up the dust telling you it's time to pack up and end your visit with this monolith of Eternity.

Then back to civilization and days of tedium, but with precious memories of a rewarding visit to one of the richest fossil beds in America. Those of you readers fortunate enough to be driving west from Kemmerer, Wyoming, on Highway 30N this summer must not pass by this most exciting opportunity to "fish" in the Rockies.

Wants zeolites, who has them to trade!

"I would like to do some trading with collectors who have zeolites, however, everyone I have traded with to date, doesn't have any. Could you tell me of several rockhounds who have zeolites to trade?"

Robert B. Ransom
906 Woodland Ave.
Schenectady, N. Y.

NOVICE COLUMN

In the Sept.-Oct. 1953 R&M, Gordon ViGario, 2231 Pine St., Bakerfield, Calif. suggested that a Novice Column be opened for rank beginners in mineral collecting. These amateurs, who do not know one mineral from another, may submit their names to the Novice Column.

It is our hope that collectors having duplicates may donate a few specimens to one or more novices who are expected to acknowledge receipt of specimens received and to reimburse each sender for postage paid on the packages. Please print or write plainly the names and localities of all specimens sent novices, and if 2 or more minerals appear on the same specimen, identify each. Remember the novices do not know one mineral from another, so please be as helpful as you can.

The following is the 22nd list of novice collectors:

Christine Westland (12 yrs.), 4464 Dyer St., La Crescenta, Calif.

Sharon Moore (12 yrs.), 739 E. Cornell, Englewood, Colo.

William Mahan (11 yrs.), 1503 N. Nevada, Colorado Springs, Colo.

Wallace Curetan, Rt. 5, Box 102, Ocala, Fla.

Mrs. John C. Lawrence, 1137 N.W. 58 Terrace, Miami, Fla.

Zelda Gutman, 4157 Clarendon, Chicago 13, Ill.

Rex Lucas, Sumner, Iowa.

Penny Hejtmanek (9 yrs.), Delia, Kans.

Gary Rich (9 yrs.), Oak St., East Auburn, Maine.

Barry Toussaint (14 yrs.), 26 Elm St., Agawam, Mass.

Cheryl Smith (18 yrs.), 2927 Vandenberg Rd., Muskegon, Mich.

Mark E. Shopnick (10 yrs.), 22130 Whitmore, Oak Park, Mich.

Mrs. Lois K. Banner, 1407 Haley, Midland, Mich.

Jack Linsley, Box 153, Hopkins, Mich.

Phyllis Deal, 3850 Wilson Ave., Grandville, Mich.

Robert (9 yrs.), and Peter Herreshoff, 6½ yrs.), 246 Univeristy Village, Minneapolis, Minn.

John Frentz (15 yrs.), 520 Van Brunt, Mankato, Minn.

Miss Alice L. Williams, 46 Woodland Road, Bloomfield, N. J.

David King (13 yrs.), 21 Sylvamdur Ave., Bergenfield, N. J.

Robert Hordyk, (12 yrs.), 1320 B. Clifton Ave., Clifton, N. J.

Harold Joyce, 661 Second St., Albany, N. Y.

Walter Kowal, RD 2, Goshen, N. Y.

David Abt, 116 Irving Terrace, Kenmore 23, N. Y.

Mrs. Frances Romain, 28 Avon Place, Staten Island, N. Y.

Helen K. Wolfe, 2206 Quentin Rd., Brooklyn 29, N. Y.

Jim Norman, Box 32, RD #1, Bridgeport, Ohio.

Flo E. Woomer, RD 44, Gettysburg, Pa.

Milton E. Wicklund, 110-Third Ave., Cranston 7, R. I.

James M. Vest (10 yrs.), P.O. Box 552, Christiansburg, Va.

Miss Lillian M. Burton, Box 292, Tomahawk, Wis.

B. F. Chumbley, 667 No. 12 St., Laramie, Wyo.

VISITING ROCKHOUNDS WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

R. A. Richards, Box 44, Morristown, Ariz.

Mrs. John A. Talbot, 1221 W. 6th Ave., Pine Bluff, Ark.

Paul F. Patchick, 908 Centinela Ave., Santa Monica, Calif.

Mr. & Mrs. W. T. Graham, 1500 Kawana Springs Road, Santa Rosa, Calif.

Rose Wey, 12525 S. Rose Ave., Downey, Calif.

Donald F. Crain, Metropolitan Life Ins. Co., Grand Junction, Colo.

Mrs. James F. Donohue, 441 Main St., East Hartford, Conn.

Meade B. Norman, 1524 Mitchell Ave., Tallahassee, Fla.

Gerald Navratil, Bonners Ferry Ranger Station, Box 119, Bonners Ferry, Idaho.

Bert C. Cole, 2233 Broadway, Boise, Idaho.

Galena Rock & Mineral Museum, Route 20 & 80, Galena, Ill.

Russell P. Neuwerk, 540-29th Ave., Moline, Ill.

Steve Sturm, 521 Roosevelt Ave., Kewanee, Ill.

F. L. Fleener, 1415 Rosmer St., Joliet, Ill.

Leroy H. Grossman, 211 N. Park Ave., Batesville, Ind.

Edward Rushton, 730 Bexley Road, West Lafayette, Ind.

Rex Lucas, Sumner, Iowa.

Rev. D.L. Lichtenfelt, Calamus, Iowa.

Mark Dunn,
316 Summer St., Cherokee, Iowa.

Mrs. Frank Krogmeier, Sr., R. R. 2, Fort Madison, Iowa.

David B. Sleeper, Box 4,
Sabuttus, Me.

Leroy Leisure, 500 Townsend Ave., Baltimore 25, Md.

Mr. & Mrs. W. M. Krause, 14190 Glastonbury Rd., Detroit 23, Mich.

Mrs. Marion E. Hull, 704 Gratiot Ave., Saginaw, Mich.

Robert Schenk, R1 Box 71, Republic, Mich.

Carl F. Lemin, 624 E. Division St., Ishpeming, Mich.

Lee E. Payne Rt. 1 (Eagle Lake), Willmar, Minn.

Geo. C. Dick,
9207 Argyle, Overland, 14, Mo.

Brentwood Lapidary & Gem Shop, 8913 White Ave., St. Louis 17, Mo. Phone WOodland 2-4067.

Robert Kissick, 7140 Theodore Pl., St. Louis 20, Mo.

Alvin W. Kemp, 231 Elmwood Blvd., Jackson, Mo.

1. Everett,
2941 N. 65th, Lincoln, Nebr.

Rev. M. E. Corbett, The Parsonage, Acworth, N. H.

Edward T. Barone, 48 Elmwood Rd., Verona, N. J.

Clark P. McLean, Brass Castle Road, RD #1, Belvidere, N. J.

Edwin Skidmore, 253 Central Ave., Mountainside, N.J.

Don Alfredo, 322 Linda Vista,
Las Cruces, N. Mex.

Vernon Haskins, East Durham, N. Y.

Leo A. Miller,
Blossvale, N. Y.

Visiting Rockhounds Welcome (Continued)

Leo A. Miller
Blossvale, N. Y.

Charlie Bennett, 210 W. Franklin St.
Horseheads, N. Y.

Mr. & Mrs. Walter Kowal, R.D.2
Goshen, N.Y.

Richard L. Sylvester, 145 Crestmore Dr.,
Syracuse 7, N.Y.

Nancy Simons (14 yrs.) 167 Main St.
Amenia, N.Y.

Mrs. A. E. Van Inwegen,
195 Broadway, Monticello, N. Y.

Harold J. Lienemann,
62 N. Gordon St., Gouverneur, N. Y.

Robert Ransom, 906 Woodland Ave.,
Schenectady, N. Y.

William N. Secrist. 193 Lehigh,
Rochester 19, N. Y.
Phone GEnesee 8216M

Ernest Brill (11 yrs.),
2975 Ave. W, Brooklyn, 29, N. Y.

Martin Seidman, 144-08 Grand Central
Pkway, Jamaica, L. I., N. Y.

Donald V. Dalton, Box 68,
Chimney Rock, N. C.

Dept. of Physical Science,
Belmont Abbey College,
Belmont, N. C.

Fred J. Teague, 1612 3rd Ave.,
S. W., Hickory, N. C.

D. R. Holder, 4485 Indiana Ave.,
Winston-Salem, N. C.

Mr. & Mrs. Clarence Carey,
Collins, Ohio

Rev. C. B. Howells, 169 Parkwood
Ave., Lakewood 7, Ohio.

Bill Berke, 1446 Earlham Dr., Dayton 6,
Ohio.

Eileen Philpott (16 yrs.), 2200 Wascana
Ave., Lakewood 7, Ohio.

Albert Laws Kidwell, 1410 Terrace Drive
Tulsa, Okla.

Rev. Wm. J. Frazer, 625 Main St.,
Moosic 7, Penn.

Mrs. Ammon Schwartzbach,
2239 Logan St., Harrisburg, Pa.

Paul M. Popovich, 124 Lincoln Ave.,
Leechburg, Pa.

Theresa Farnham,
R D 2, Cambridge Springs, Pa.

Leighton Donley, Box 101, Miners Village, Cornwall, Pa.

H. C. Van Tassel,
8009 Westmoreland Ave.
Pittsburgh 18, Pa.

Edward Carev (11 yrs.), 200 Atwell Ave.,
Providence, R. I.

Adolph Hillstead, 1309 4th St.,
Brookings, S. D.

M. S. Ortman, Ortman Museum, 6 mi. N.
of Marion, S.D.

Mrs. Edwin P. Olson,
Beresford, S. D.

P. M. Plimmer, Box 701, Alpine, Texas

Robert Peck, 3011 Spurlock St., Dallas
23, Texas

Howard V. Hamilton, 1340 Crandall
Ave., Salt Lake City 6, Utah.

Charles A. Steen, Utex Exploration Co.,
Inc., Moab, Utah.

Karen Hufnagel (14 yrs.) East Ryegate,
Vermont.

James M. Fagan
Wallace, Va.

G. W. Weber, 1320 Portland Ave.,
Walla Walla, Wash.

Mrs. Mary E. King, Star Route, Palmer
Alaska.

Mrs. E. R. Willis, 17-3rd Ave.,
Chilliwack, B.C., Canada

Publications Recently Received

Murdock-Webb—Minerals of California

By Joseph Murdock, University of Calif., Los Angeles, and Robert W. Webb, University of Calif., Santa Barbara College.—452 pp., 6 pl. in color, 1 drawing. Published by the Division of Mines, Ferry Building, San Francisco 11, Calif.—Price $3.00.

Widespread interest in California minerals and mineral resources began early in the history of the state, and has continued to increase to the present time. It has received a great impetus by the organization of many mineral societies ,which have multiplied in number, and now have large memberships in California. The increasing number of minerals and mineral occurrences which are still being reported reflects this growing interest, and is shown in the swelling size of successive catalogs of California minerals.

The new edition, Bulletin 173, published in December 1956, contains 50 more pages than did the previous edition, issued in 1948 and which is now out of print.

The minerals are listed alphabetically and under each mineral are listed, alphabetically, the counties in which they are found. This is a very valuable handbook on the minerals and their localities in California.

Blackett—Lectures on rock magnetism

By P. M. S. Blackett, 131 pp. illus. with drawings, 6 x 8¾, (Published by the Weizman Science Press, 33 King George Ave., Jerusalem, Israel . For sale by Interscience Publishers, Inc., 250- 5th Ave., New York 1, N. Y. — $5.00.

When rocks are formed they tend to become magnetized in the direction of the magnetic field of the earth. By measuring in the laboratory the intensity and direction of this weak magnetization, one can, therefore, in favourable circumstances deduce the intensity and direction of the earth's field right back to the beginning of geological time. Very surprisingly it is found that a large number of rocks, even a majority, are magnetized in exactly the opposite of the expected direction. This result seems to indicate that the earth's field was often reversed in past times. However, this is not quite certain, as a number of obscure and subtle physical processes are known, which can cause a rock to become magnetized in the opposite direction to the ambient field. Much further work is needed to come to certain conclusions on this point.

Another remarkable discovery is that the direction of magnetization of old rocks is generally quite different to that of the present field. This almost certainly indicates that the continental land masses have moved great distances relative to the geographical axis of the earth during geological history. The present rather meagre results indicate most likely a general shift of the earth's crust as a whole relative to the axis, on which is superimposed a somewhat smaller but very important drift of some, at any rate, of the land masses relative to each other. Thus polar wandering and continental drift seem both to have occurred.

Barnes—Uranium Prospecting

By Hubert Lloyed Barnes, 5¼ x 8, 117 pps., paper cover. Published by Dover Publications, 33 E. 19th St., New York 10, N.Y. Price $1.00.

This is a practical book about uranium prospecting, designed for immediate use. Compiled and written by a professional geologist who has had considerable first-hand field experience in uranium prospecting, it is an excellent elementary account of all aspects of this highly profitable occupation. It tells you what uranium prospecting is really about, and is especially valuable in its discussion of uranium ores, geological occurrence sof uranium, and field conditions.

Gem Tumbling and Baroque Jewelry Making

This is a guide for amateur tumblers that was prepared by Arthur Earl Victor and Lila Mae Victor of the Victor Agate Shop, 1709 South Cedar St., Spokane 41, Wash. It is an attractive 39 page, 6 x 9 publication, with many good illustrations. Since gem tumbling and baroque jewelry making seem to be the rage with rockhounds (with very little information available) this little guide should sell like hot cakes. It has just been issued! Order your copy today. Price is only $2.00 per copy.

ARIZONE GEM FIELDS—by Alton Duke

For Sale by OFFICE SPECIALTIES, 2364 No. 58th St., Seattle 3, Wash. who offer this book of 112 pages, illustrated for $2.00.

This is the first bound book of field trips in Arizona that we know of that contains maps and specific directions. The author claims in his introduction to have just recently completed a 3,200 mile, 30-day trip during which he personally visited each of the areas described and mapped. The 16 maps in the book are, for the most part, detailed enough, with many of them giving check points and mileages. All of them are "sketch" maps but should prove adequate for the experienced,

off-the-road rockhound. There are approximately 40 areas covered and many of them have several deposits of different materials. It is also claimed that all areas mapped and described are accessible by modern automobile. All in all, this is a nicely put together book and the information it contains is well organized. It should prove an invaluable companion to anyone traveling in Arizona as the descriptions and directions seem better than average. This book has long been needed and should prove popular.

TUMBLING TECHNIQUES, A Guide to Tumbling Polishing, edited and compiled by G .L. Daniel.

For Sale by Office Specialties, 2364 No. 58th St., Seattle 3, Wash. Illustrated. $1.00

The several editors of the various gem and mineral magazines will doubtless rejoice at the issuance of this book because it will save them countless hours of letter writing.

The booklet does not claim originality but, rather, that it is a consensus of the editor's findings regarding the various phases of tumbling. This approach is almost necessary as there are so many variables in the process that positive, specific directions cannot be given with any assurance of their being completely successful. The booklet does, however, cover all, or nearly all, of the problems to them that that are encountered and offers solutions have proven successful for other tumblers. It gives recommended drum speeds, tumbling times for the various phases of the process, and hints on polishing, polishing agents, and burnishing. It also gives some suggestions for handling various gem species which should prove helpful. There is nothing pretentious about this booklet but it will prove valuable to anyone who is going to try tumbling or who is having trouble along the line some place. It is well worth the$1.00 and will doubtless save its readers many times its cost.

Quite Amusing

Editor R&M:

Mrs. Jean W. Laurence drew my attention to the attached clipping from Jack Rosenbaum's column in the SAN FRANCISCO NEWS.

I find it quite amusing and think the readers of R&M will also enjoy it.

G. H. Halden
270 Lewis Ave.
Millbrae, Calif.

March 20, 1957

"Science students at a local high school have their own peculiar set of definitions, to wit: chlorine—night club dancer; carbon—where you store street-cars; barium—what you do to the deceased; atom—Eve's husband; Fehling—flunking an exam; tin—opposite of fat."

12 Westchester County, N. Y. Rocks

From Frances H. Elwyn, Mt. Airy Road, Croton-on-Hudson, N. Y., we received a sample box of 12 Westchester Rocks (Westchester County, N. Y.), boxed and labeled to be sold for the benefit of Westchester Mental Hygiene Association at $1.50 per set, postpaid and of good size.

Below is a brief description of the 12 Westchester Rocks:

1. Quartz: Common all over the county in veins and masses and also in granites and pegmatites.
2. Feldspar: Found at Kinkel Quarry, Bedford Village; Croton River bridge at Crotonville. Used for the glaze on china and non-scratch cleansers such as Bon Ami.
3. Marble: Found at Tuckahoe, Hawthorne Circle, and Croton, N. Y. New York City Public Library built from Tuckahoe marble.
4. Granite: Found at Croton Ave., Peekskill. Croton Dam built of this granite.
5. Granite: Found at Crompond Road ,Peekskill, This "Golden Granite" was used for Cathedral of St. John The Divine, N. Y. C.
6. Pegmatite: Found at Kinkel Quarry ,Bedford Village. Same minerals as granite but crystals much larger.
7. Gabbro: Found at Croton Ave., near Hunter Brook, town of Cortlandt. Used for 300 feet of Croton Dam that is below ground.
8. Emery: Found at Salt Hill, Croton; and Furnace Dock Road, Peekskill. Used for abrasives, nonskid floors.
9. Pyrrhotite: Found at Anthony's Nose, North of Peekskill. Formerly mined for sulphur.
10. Mica Schist: Found at banks of Reservoir near Croton Dam. Used much for building, splits easily.
11. Gneiss: Found at Thruway rock dump on Route 119 near Elmsford. Used in building.
12. Phyllite: Found at Road Cut on Route 9 near Annsville Creek, north of Peekskill. Changed from slate by heat and pressure.

Stones from historic spots!

Editor R&M:

I find that many of my parishioners, on visits both here and overseas, wishing to bring me a mineral for my collection, often bring "stones" from a historic spot. For example, one sample is several pebbles from the Italian Riviera, another is from the churchyard where the poet Gray wrote his Elegy, etc.

Are there any R&M subscribers who are making a collection of this special type of mineral or stone? If so, I'd be most happy to exchange what I have for cutting material. No great quantity, understand!

Rev. William J. Frazer
625 Main St.
Moosic, Pa.

March 26, 1957

COLLECTORS KINKS

Collectors are cordially invited to submit notes from their experiences and to make this department of interest to all.

Cleaning Prehnite

From the New Street Quarry, West Paterson, New Jersey, I dug quite a bit of prehnite. It was very rusty. I tried oxalic acid which was recommended by several—but in this case the rust coat was so heavy that by the time the rust was removed the prehnite had a white coat that left it unsightly. I tried several acids with no success.

I had a sand blaster available so I tried this. Quartz sand did a quick job, left the prehnite with a good color but cut away some of the prehnite crystal form. I then tried a limestone sand . . . (there is plenty of this along these small streams here in the bluegrass of Kentucky); this sand is softer than the prehnite but will cut the rust. This leaves the crystals almost perfect, yet cuts all the rust. I now have some very beautiful prehnite.

Maj. Raymond V. Pruett
Sulphur, Ky.

Wants to start a club!

Editor R&M:

I am desirous of becoming affiliated with a mineralogical club in this area or better yet, of starting such a club in Nassau County, Long Island, New York. I would appreciate it if you could find space in R&M to place a small announcement regarding collectors or subscribers to R&M who would like to organize such a club to contact the writer either by letter or telephone (ROslyn 3-6990).

Ernest E. Brodbeck
12 Terrace Court
Albertson, L.I., N.Y.

Information Wanted By Readers

Can serpentine be turned on a wood lathe?

"If it is permissible. I'd like to ask through the pages of R&M if any mineral collectors have ever tried turning serpentine on a wood lathe? I'm thinking especially of the Staten Island, N. Y., variety of the mineral, with reddish flecks and a rather good 'body'. Maybe the Easton Pa., serpentine would work well also."

Rev. William J. Frazer
625 Main St.
Moosic 7, Pa.

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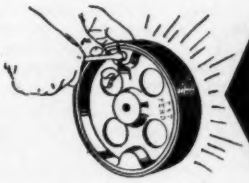

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